

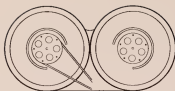
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THE AMERICAN *Cinematographer*

★ THE MOTION PICTURE CAMERA MAGAZINE ★



February
1942



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RILEY SCOTT, the cameraman and correspondent whose understanding of China and sympathy for its people are reflected in the motion picture *KUKAN*, is a veteran at his profession, having worked with his Eyemo Cameras over much of the world. He is seen here with an offset turret model which is temporarily stripped of extra lenses, for compactness.

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AMERICAN CINEMATOGRAPHER

THE MOTION PICTURE CAMERA MAGAZINE

VOL. 23

FEBRUARY, 1942

NO. 2

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NEW YORK REPRESENTATIVE	S. E. Cowan, 132 West 42nd Street, Chikering 4-2276 New York
AUSTRALIAN REPRESENTATIVE	McGEE's, 179 Elizabeth Street, Melbourne, Australia and New Zealand Agents

Published monthly by A. S. C. ADSPON, Inc.
Editorial and business offices
1712 North Orange Drive
Hollywood (Los Angeles), California
Telephone: GLENN 2120

Established 1926. Advertising rates on application. Subscriptions: United States and Foreign American Union, \$1.50 per year, Canada \$2.75 per year. Foreign, \$3.50. Single copies 50c. back numbers, 50c. foreign single copies 50c. back numbers 40c. Copyright 1942 by A. S. C. Adspoon, Inc.

Entered as second-class matter Nov. 16, 1935 at the postoffice at Los Angeles, California, under the act of March 3, 1973.

The Front Cover

This month's cover shows one of the U.S. Army's cinematographers filming a close-up of a tank in action. We regret the names of the cinematographers shown and the still photographer responsible for the picture aren't available so we could give more recognition than the usual line "Official Photo, U. S. Army Signal Corps."





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IN 1842, Edward Anthony founded the company that is now Agfa Ansco. We're proud of our hundred years as an American institution, but we're prouder of the letters that have been coming in to us from photographers, both professional and amateur, saying: "Congratulations! We wish you success in your next hundred years!"

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Cadets of the Royal Canadian Air Force view a film on advanced air-fighting tactics. A fully equipped theatre is a part of every RCAF Training Station.

Movies Speed Training of R.C.A.F. Fighting Airmen

By WILLIAM STULL, A.S.C.

UP north of the border, Canada has taken sturdy hold of one of the most vital parts of the United Nations' world-proving War Effort—the famous British Commonwealth Air Training Plan. To Canada come Royal Air Force cadets from every corner of the far-flung British Empire—not only from the broad Dominion of Canada, but from Australia, New Zealand, South Africa, India, and from England itself. And, but an incredibly few weeks later, from Canada they go forth to battle the Axis enemy wherever he may be found—highly trained airmen of Britain's Royal Air Force, Royal Canadian Air Force, and Royal Australian Air Force. Every year sees tens of thousands of them pass through the 91 schools to emerge as crack fighter pilots, bomber observers and radio-generators who have already proven their ability to out-fly, out-shoot and out-fight the Hun and the Jap (to say nothing of the Italian) wherever they can meet him on anything like even terms.

Motion pictures play an important part in this vast Air Training Project—Speed is the keynote, and the emphasis through the use of films, R.C.A.F. officials estimate close to 100,000 hours of instruction per month are saved, and

many subjects are absorbed in a lasting way which could not be approached by any other method.

The R.C.A.F.'s movies are on a strictly 35mm basis. One reason for this is the fact that all of the R.C.A.F. Training Stations are provided with 35mm equipped theatres. And so wonder! The majority of these stations were created—almost overnight—from what was, two years ago, bare ground. Their sites were chosen more for suitable flying terrain than for nearness to cities; and while some of these are conveniently close to major Canadian cities, others may be fifty or sixty miles from the nearest village. Inevitably, provision of a post cinema was essential, so that the budding aviators might be provided with leisure-time entertainment. And it is only logical that these modern-equipped theatres should "double in brass" as classrooms when training films are used.

The majority of the training-films used are professionally produced. Under the composite administration of John Gurnason, the Canadian National Film Board has mobilized Canada's professional film industry for the making of both training and public informational films according to the highest professional standards. Production routine is

very like that followed in Hollywood's cooperation with the U. S. Army. When the R.C.A.F. needs a film, its request is made known to the Film Board, which in turn assigns the actual production to a professional production unit—usually one of Canada's capable industrial film studios, though we understand some special films have been made in Hollywood, by Walt Disney and others. Script and production are supervised by R.C.A.F. specialists, and the completed production becomes part of the Air Force's growing film library.

The scope of the film subjects covers virtually the entire field of Air Force activity. As Squadron Leader Owen Cathcart-Jones, R.C.A.F. liaison officer in Hollywood, who has been serving as Technical Advisor on Warner Bros' "Captains of the Clouds" explains it, "A modern aviator has to know a good deal more than simply how to fly a plane or shoot a gun, and some of the subjects he must master don't lend themselves particularly to conventional methods of instruction—especially when you want to turn out airmen in mass production, and quickly. We've found, as many civilian educators these last few years have, that there's a deal of truth in the old Chinese saying that 'one stroke is worth a thousand tellings.' We're proving every day that what a chap sees on the screen in a well-made motion picture creates a more lasting impression than could be given by almost any other sort of instruction.

"Motion pictures make it possible to give a student a clear picture of many things an instructor can only talk about. For example, you can talk for hours about what happens in the cylinder of a modern airplane engine, or how a machine-gun uses exhaust-gases or recoil energy to reload itself, yet you can't get the facts across half so clearly that way as you will by showing your student a ten-minute movie. The motion picture can take him right inside the engine or gun and let him see for himself what happens. With a single showing, you can get the same idea over to a class of several hundred; with additional profits, you can show it simultaneously to a hundred classes in a hundred widely-separated schools. Every man in every auditorium will get the idea with equal clarity—and the knowledge will stay lasting in his mind.

"We've found motion pictures invaluable for instructing ground crews and the personnel of aircraft factories in the proper methods of assembling and maintaining airframes and engines. It's no military secret that the various sub-assemblies of some types of aircraft we use in training may be manufactured in England or the United States and shipped to us for final assembly in Canadian plants. Modern airframes alone are rather complex, and then there are all the necessary auxiliaries, such as the maze of electrical and hydraulic systems

which operate the landing-gear, brakes, flaps, gun-turrets, and the rest, to make the whole thing a frightfully intricate assembly job unless your ground crew knows precisely what it's doing. We've found films invaluable in imparting this accurate information quickly. I rather fancy the United States' aircraft plants are finding the same thing as they expand production through the use of widely-scattered 'shadow factories' making units to be assembled finally in a centralized assembly plant.

"Some subjects can be visualized only by means of motion pictures. For example, there are certain features of our use of radio, such as radio navigation, the operation of the radio-locator, and so on. Practical experience with the instruments involved can show how these instruments should be operated—but only the motion picture will give a clear, visual impression of why they work as they do.

"Knowledge of the basic principles of aerodynamics is an important part of an aviator's training. But here you are treating something ordinarily invisible—the flow of air across an airfoil. It can be visualized, however, in several ways. One is through the use of animation. Another is by photographing the flow of properly-colored streams of smoke past airfoil-sections or scale-model planes in a wind-tunnel. In one of our experimental stations we have a huge wind-tunnel, almost as large as the famous N.A.C.A. wind-tunnel in this country, in which we can use and photograph really large scale-models, and even some full-sized smaller types of aircraft. With these films we can bring our students an accurate, visual impression of such abstractions as why the flow of air across a wing creates lift, or what happens when a wing stalls, or when the controls are moved.

"Another important use we make of motion pictures is in training our landing air crews for flight at the extremely high altitudes at which modern planes fight. We've a huge decompression-chamber, not unlike that shown in one sequence of Warner's recent film, 'Dive Bomber.' In it, we can reproduce the conditions of greatly reduced air-pressure and temperature which exist six or seven miles above sea-level.

"Groups of students enter the tank, and make test flights to various altitudes, both with and without oxygen equipment. At specified points, they go through various medical and psychological tests which show how their physical and mental coordination is affected by the changes in pressure, temperature, and so on. These tests are not only watched by Air Force instructors and doctors, but are photographed by a cine camera. The films are then studied by both the officials and the students themselves.

"The motion picture is equally valuable in the more strictly military part of our crew training, too. Of course we make use of camera guns similar to those used in the U. S. Army Air Force, and described in recent issues of THIS



Training in bank aiming includes aiming with a regular bank scale, at a moving, projected picture, which gives the illusion of actual flight "hits" and "misses" and is directed by a spot of light which bank scale is pushed.

AMERICAN CINEMATOGRAPHER, only, however, use Home film.

"Motion pictures of scale-model planes train pilots, observers and gunners in recognition of our own and the enemy's various types of planes.

"In some of these miniature ships, we place small light-globes, located precisely in the positions where in a real aircraft fixed or movable guns are mounted. The lamps are carefully masked so that each shines only through the precise angle of fire that particular gun would have.

"Films are made of these models from every possible direction of attack. They virtually take the student pilot or gunner into the air to attack that particular type of enemy plane. If from any given camera-angle one of the little gun-position lights is visible, the student knows that, in a real attack, he would probably find himself the target for an unhealthy stream of machine-gun bullets or cannon shells; only from angles where no light is visible could he be attacking the enemy's 'blind' angle. With these films, the students learn quickly and lastingly just how each type of German, Italian or Japanese plane should and should not be attacked.

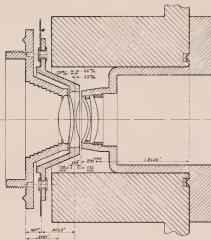
"Supplementing these films are films taken from the 'combat camera' installed in planes in actual operational service overseas. These cameras take 16mm motion pictures every time a service plane's guns are fired, and bring back an irrefutable record of the

airman's hits or misses in actual combat. Many of them show our ships actually shooting down Nazi raiders, or strafing ground targets, and the like.

"These films eventually find their way to our R.C.A.F. training centers in Canada, where they are carefully analyzed by the instructors and their students who will soon be taking their own places in the operational squadrons in combat overseas.

"A very important branch of service flying in the Fleet Air Arm, whose squadrons operate from aircraft-carriers in the Royal Navy, Carrier operations can't, certainly, be overlooked in training. Nor is it. Again, motion pictures play an important part. Every operational landing and take-off aboard the Fleet Air Arm carriers is filmed by a 16mm. motion picture camera. These films not only form a record for the operational personnel and the Air Ministry technicians, but provide invaluable material for instruction. Films of carrier landings—good, bad and indifferent—by all types of carrier-based aircraft, are brought to the training schools, where they show the pilot-trainees just what to do and what not to do in the ticklish task of setting a fast fighting-plane down on the relatively small area of a carrier's deck.

"To what extent does our use of motion pictures speed up R.C.A.F. training? We estimate that it shortens the training-period of each student by more than [Continued on Page 24]



Above: enlargement of film frame made with Electroplane camera. Left: diagram of "Electroplane" lens system.

viewed for upward of three minutes continuously, without blurring of vision. The basis of Dr. Deterich's theory was simple, its execution one of the most complex and important optical discoveries of all time.

The theory—can a lens be so designed and constructed as to automatically accommodate itself, as does the eye of man, to focus clearly at every perceptible distance and at the same time not change the size of the various images at different distances from the viewer? This theory and its solution, and the construction of such a lens, was pronounced optically impossible by most of the scientific brains of the time. The good doctor, in no way discouraged by such depressing commentary, persevered in study and experiment, using his own funds and those of some friends who believed in him, stopping from time to time as such funds were exhausted, until the efforts could be replenished.

At one period of this saga, the doctor, with such limited funds and still more limited scientific apparatus, took 3,346 photographic hard tests, of which three were successful, and thus demonstrated to himself the correctness of his theory, and that with the necessary refinement and development, his lens would indeed become a photographic eye.

At this time patents were applied for in most of the important countries of the world. So novel was his theory, and so revolutionary its accomplishment, that several of the patent offices refused to allow his claims, as impossible of performance, until furnished with the actual film showing the definite and unquestioned result to the doubting Thomases of the scientific and optical world.

Thereafter, Dr. Deterich equipped several Bell and Howell and Mitchell cameras with "Detra" lenses, all of which performed satisfactorily, each model an improvement over its predecessor.

Shortly before Dr. Deterich's death, a young sound engineer, P. Stanley Smith, who had been working on the same idea, knowing nothing of Dr. Deterich or his patents, discovered the solution in the course of his research. He then realized that he was provided by these patents from further progress. As sometimes, but rarely, happens in scientific research, these "two" ideas did not

THE ELECTROPLANE CAMERA

A New System For Obtaining Natural Depth

By EDWARD P. HOLDEN, JR.,

South Branch Corporation

FROM the first feeble and eye-wracking "flapper" of the primitive movie, to the present time, three cardinal improvements were always in the minds of the scientist and engineer.—Sound, Depth and Color.

The first of these—Sound—was finally introduced to motion picture audiences against practically universal opposition on the part of the producer. Even though far from perfect at its inception, once audience reaction became evident, all silent pictures were but remnants of an ancient era, gone forever.

Color, after vast expense in its development, and much conspiracy even today in its production, resulted with more or less satisfactory results, has at length become a recognized feature of motion pictures.

But what of so-called Depth, which was said by no less an authority than the great Thomas A. Edison, to be the next important step forward in cinematography? Efforts without number have cluttered the files of the Patent

Office with vast reams of paper, non-sensical cameras have been built on concrete bases; the shape and surface of the screen has been modified; the unfortunate audience has been saddled with spectacles and eye-glasses, all with what result? A bad imitation of the ancient stereoscope found on the sitting-room tables of our grandparents. No depth effect in its true sense, which is nothing more than clear, natural vision.

That was the condition prevailing up to some fifteen years ago. At that time, the late distinguished scientist and engineer, Dr. Ludwig M. Deterich, A.S.C., attracted by this problem, gave up his entire time to research, study and practical experiment looking toward its solution. His efforts were directed not in the direction of stereoscopy, which he was well aware was not the true solution he sought, but even if mechanically and optically possible of accomplishment is motion picture practice, would cause such intense "eye-strain" that a stereoscopic picture as couple could not be



Above: photograph from home made with "Electroplane" camera. Right: the "Electroplane" optical system applied to a standard Mitchell camera.

fight each other, but close to collaboration. As a result, Mr. Smith applied for his patents on electrical operating mechanism applicable to the Dietrich "Detmar" lenses and a combination was made of all such patents, and the Smith-Dietrich Corporation of New York was formed. Further extensive studies and experimental tests were made over a period of years, which resulted in the birth of the present Smith-Dietrich Electroscope Camera.

What is it and what does it do?

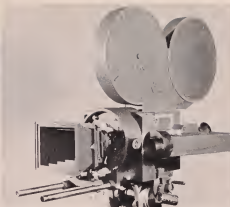
The "Detmar" lens operates on the principle of the human eye, that is, automatically adjusts its focus without changing the size of the image, thus producing on the film the same illusion of depth as seen by the human eye.

The lens itself is composed of four cells, or elements, one cell of which oscillates along the axis of the system, without tilting or distortion of motion, for a maximum distance of 3/10 mm. The lens presently employed is a 50 mm lens, f 3.5, coated, effectively f 4.3 and so calibrated. Calculations covering the basic field of a wide range of lenses of various focal lengths have been completed and checked by Smith-Dietrich engineers.

The present "Detmar" lens, like Dr. Dietrich's earlier objectives, is made by the Bausch & Lomb Optical Co., to the highest American standards.

The "Detmar" oscillating lens permits the moving of the plane of sharpness from an arbitrary point four feet from the camera, through the field to the infinity position, thus registering a sharp image of every object in that field in front of the camera, and resulting in uniform focus throughout.

In the Electroscope Camera, the oscillation occurs a multiplicity of times during the exposure of a single frame of film, thus eliminating the necessity of synchronizing the lens movement with the camera shutter and intermittent. This motion makes possible the change of equivalent field of the system, without change of image size, so that, when operated in a motion picture camera a multiple of cycles, during the exposure of a single frame of film, registers an in-focus image of every object before the camera.



The lens in early Dietrich cameras was mechanically operated by a cam attached to the balance wheel of the film driving mechanism. This cam, in turn, transmitted motion through a series of levers and shafts to a sleeve in which the moving lens was mounted.

The current model of the Smith-Dietrich Electroscope Camera, the electrical operating control of which was designed and patented by P. Stanley Smith, is an adaptation of a standard Mitchell motion picture camera, fitted to a special base designed to receive the "Detmar" lens and its actuating motor. This lens-actuating "motor" is very much like that of the voice coil and exciter field of a dynamic loudspeaker. However, it is designed to meet precision of motion requirements. The development of this latter has required months of experimentation. It involves the use of a specially formed diaphragm on which the moving coil and the "B" lens (second from the left in the drawing) are mounted coaxially with respect to the other lens-elements of the system.

A very important feature in this project is that the "B" lens and its driving and locking components have no frictional contact, and therefore can be described as a "floating" structure. Said structure is rubber and air-coupled. The lenses are in accordance with the Dietrich specification in U. S. Patent No. 1,947,965. The exciter field is operated by direct current. The moving coil is actuated by (1) alternating current, or (2) direct current, or (3) a combination of both in achieving (1) the maximum oscillation of the lens, which is .001 in.; (2) the desired action, or (3) a combination of oscillation and bypass.

Mr. Smith's first considerations in his

original plan, concerned the possibility of raising a large mass as body at the rate of as high as 300 cycles per second, at the same time conforming to the limitations of designing a structure which would fit into but not interfere with standard accessories for both camera and sound-recording equipment.

The control instrument or console, which can be operated remote from the camera, supplies to the lens motor alternating and direct current, or both blended, which:

- (a) Causes registry of all objects before the camera;
- (b) Operates the camera as a standard limited focus camera;
- (c) Causes an extension of the in-focus area, permitting, at the same time and if desired for artistic purposes, extreme background or extreme foreground out-of-focus with a selected range intermediate between the two extremes, in-focus.

Any one of these three conditions is producible by the simple throwing of a switch and without interruption or stoppage of the camera filming mechanism. All power for the lens unit is removed from the control console, which in turn operates on 110 volt, 60 cycle alternating current.

In other words, automatically and exactly, any focus or depth of focus the cinematographer may wish to use is available instantly, with predetermined accuracy.

While the motion picture industry is a promising potential field for the Electroscope Camera, its principle readily lends itself to television, a field which is now definitely in its infancy, but which holds much promise. It is also adaptable to most forms of photography, END



Television in pre-war England was similar to this scene in BBC's television studio.

Color Television in England

By J. H. BAIRD

Baird Television, Ltd.

WHEN war broke out, television in England was firmly established and appeared to be entering upon a period of prosperity long delayed. Preparations were in hand to meet a large and rapidly growing demand for television both for the home and the cinema. With the outbreak of war the television transmission service was immediately stopped, and the results to the growing industry were catastrophic. With no transmissions available receiving sets were useless and commercial television came to an abrupt standstill.

The company of which I was President (Baird Television, Ltd.) was of the worst sufferers, was unable to continue. At that period I was engaged on research in Color Television, work which I have continued in private during the war.

The transmission of television in color is not new. It was shown for the first time in public as far back as 1928, when I gave a demonstration at the annual meeting of the British Association. The demonstration was entirely experimental

but the principle then shown is the same as that used in the latest apparatus.

It is in fact a process similar to color printing, three images corresponding to the three primary colors (red, green and blue) being superimposed. In the first color television apparatus, the three colored images were obtained from a disc perforated with three spirals of holes, one spiral being covered with a red filter, the other with a green, the third with a blue; and the three pictures so produced were superimposed to form an image in natural colors.

The picture then shown was very small, only a few inches square and of poor quality. Development since that date has been slow, since general attention has been largely centered on monochrome. At last in 1938 I was able to show a 12 ft. by 9 ft. Color Television picture transmitted by wireless from the Crystal Palace to an audience of 3,000 in the Dominion Theatre. The apparatus used, however, was costly and complex and not practicable for the home.

Immediately before the outbreak of war, in August, 1939, I was able to show Color Television for the home by using a rotating disc fitted with color filters in front of the ordinary Cathode-ray tube of the present day home receiver. In our latest apparatus the number of lines has been increased to 400, giving nearly twice the amount of detail available on the British Broadcasting Company's black-and-white pictures.

Both three-color and two-color processes have been experimented with. For practical purposes the two color has much to recommend it at present and in our latest apparatus a two-color process is used in conjunction with a special form of scanning, a triple interlaced 200-line primary field being employed, alternate fields passing through red and blue filters giving a final 400 line picture in color.

The complete field is scanned 16½ times per second and complete colored pictures are transmitted at the rate of eight and one-third per second. With triple interlacing and alternate primary scans colored, this very low picture frequency can be used without undue flicker and with the very great advantage that the 600-line color picture can be transmitted on the same wave-band as that used by the BBC for their 405-line black-and-white transmission.

The use of two colors in place of three simply means substituting a two-color disc for a three-color. It entails a loss in color rendering, but if three colors are used a much wider channel is necessary for transmission, and considerable alterations in existing apparatus are required.

We are experimenting with both three and two-color, but for practical working the use of two colors has many advantages and commercial color television will probably commence with a two-color system which is immediately adaptable to existing apparatus and available channels.

After the war the broadcasting of color television will, I feel sure, be one of the major television developments. The colored television picture is far superior to the monochrome, and sooner or later must supersede it. As far as Britain is concerned, the television service will be extended to cover the whole country instead of being confined to the London area. Cinemas will be equipped with television screens and television will become a regular feature of these programmes.

The importance of the television service is well recognized to-day and we may look forward to its early resumption as one of the first post-war developments.

END



Motion Pictures in the Army

By ROBERT E. KONIKOW

THERE is nothing semitearish about the Army way of making motion pictures. At Fort Monmouth, on the New Jersey coast, there has been set up a complete organization for making films for the visual instruction of our rapidly growing Army. Called the Training Film Production Laboratory, this Signal Corps unit does everything on a film except the actual processing.

Under the direction of Lt.-Col. M. E. Gillette, its Commanding Officer, who received his practical training in film-production in Hollywood's studios under the Academy Research Council's Army officers training plan, TFPL has forged rapidly ahead both in technique and in facilities and equipment. On August 1, 1940, the unit consisted of just one officer, three enlisted men and one civilian employee. Now, within two weeks of our entrance into the war, there are more than 250 people working under Col. Gillette. The hastily-erected wooden building, now taxed to capacity, is soon to be supplemented by a fireproof brick building to house the branches of the unit that edit, record sound, photograph animated sequences, and other sections that work directly on the film itself. In addition, a small sound-stage for shooting what interiors are necessary is under construction.

This rapid growth reflects a basic change in Army training policy. No longer is instruction left completely in the hands of the traditional hard-boiled sergeant. He was a master of his craft. He could take a squad of raw recruits

and turn them into first-class fighting men, but his method was that of the individual. Today time is too short and equipment is too complicated for mass training to take place in this comparatively inefficient manner. We need an assembly line to make today's soldiers, and motion pictures are the answer.

A properly made film can teach more quickly and more completely than anything but personal, man-to-man instruction, obviously not a practical method to answer today's needs. The motion picture can be repeated as often as necessary. Though close-ups, the films can be brought as near to the vital points of the lecture as is desired—much nearer than at an actual demonstration. Animation can bring the men right into the interior of the machine itself, in a manner that no other method of teaching can approximate.

The unit handles a film very much as a Hollywood studio does. Each production has its complete crew: producer, director, cameramen, editors, sound men and so on right down the line. If location shots are needed, the unit is equipped to go anywhere to get them.

The first step is taken when the subject-matter of a film is approved by the War Department. Subjects that are of interest to the entire Army get priority in filming. The order of making films designed for our Air or Service of the Army come next, in order of their necessity and importance. The Air Corps is the only branch of the Army that makes its own films, all others being done at Fort Monmouth by TFPL.



Top left, one of the Army's location trucks; right, an Army film unit makes a dolly shot on location with improvised dolly and track. Below, Army film unit at location produces training film, another part of the instruction scheme at Ft. Monmouth.

Suppose that the Engineering Corps wants a film on the erection of pontoon bridges. When TFPL has been given the "go ahead" signal, the Engineering Corps sends one of its officers, expert in pontoon bridges, to Monmouth to act as technical adviser. The subject is assigned to one of the Unit's senior officers, who acts as producer on all Engineering Corps films. Other officers are assigned to different branches of the Army in a similar fashion.

Writers are assigned, and with the

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Shooting Technicolor in the Air

By **ELMER G. DYER, A.S.C.**

PROPERLY speaking, this article should be credited jointly to Charles A. Marshall, A.S.C., Winton Hoch, A.S.C., and Elmer Dyer, for we have just completed two "Technicolor aerial films in succession—*"Warner Bros." "Dive Bomber"* and *"Captains of the Clouds"*—upon which we worked as a team, rather than as individuals. No one of us deserves sole credit for what we were able to put on the screen, and anything written about what we learned and what we did while photographing Technicolor in the air is necessarily based on our joint experience.

As far as aerial cinematography goes, the fact of color is about the biggest asset a cinematographer can have. It simplifies his work enormously, and makes even routine scenes appear much more spectacular on the screen. This statement, by the way, applies to any color process, though naturally most carefully to perfected three-color systems such as Technicolor in 35mm., and Kodachrome in substandard cinematography. A great deal of the technique we used in Technicolor is also excellently adaptable to films Kodachrome, too.

In black-and-white aerial camera-work, one of your biggest problems is that of securing satisfactory tonal separation between the planes you are photographing and the sky or ground which

forms the background. To this end, the aerial cinematographer has to have and use an assortment of filters which is often more extensive than anything normally required for non-flying camera-work.

In color, this problem does not exist. Granting that the planes themselves are painted in properly contrasting colors, the fact of color provides the separation automatically. With the exception of the blue filters used for Technicolor night-effects, no filtering is either necessary or possible in Technicolor camera-work. The same applies in Kodachrome; incidentally, the so-called "haze filter," which cuts out ultra-violet in extreme long-shots, does not seem to be of any benefit in making aerial scenes.

It is vitally important, however, to make sure that the ships you are going to photograph are painted in colors which will provide a definite visual contrast with the backgrounds against which they will fly for your camera. For example, photographed against the sky or flying over a lake or ocean, or over the grayish tan of a California desert, a plane painted in the olive green of the United States Forest Service ships would stand out excellently. But photograph that same dull-green plane flying over forests like those in Northern Canada, and it will be virtually invisible.

The most satisfactory colors, we've found, are the warmest ones—reds, oranges and bright yellows. These make a vivid contrast against almost any background, whether it's the green of forests and fields, the blue of sky and ocean, or the pastel shades of our western deserts. Both our own air services and the R.C.A.F., you will notice, paint their primary training ships a brilliant yellow or yellow-orange for this same reason. Other students can see them quicker and farther off than if they were painted any other color.

For preference, the planes photographed in color should be painted chiefly in these bright, warm colors. If the art-director wants to employ any other colors, for the closer, ground shots, they should be used as trimming or striping, rather than the basic, overall coloring.

We learned this the hard way in making the "dash flying" sequences for *"Captains of the Clouds"*. Some of the color-design specialists had preceded us to the location, and had had the planes we were to use painted in what were no doubt very artistic color-schemes. One ship was a dull green-color; another very dark red; another jet-black with orange trimmings; and so on. They were really very pretty—only they were not at all photogenic. The script called for a lot of spectacular action in long-shots, with the planes hedge-hopping low over the dark-green forest floor. And all too often, in these long-shots, the dull colorings of those planes made them all but indistinguishable against their background. The one lighter-colored plane stood out better against the dark background—but when we shot it over a light-toned, brightly-reflective lake, or against a bright sky, we found it, too, was very effectively camouflaged!

Unfortunately, we could not have those planes repainted, nor could we replace them with others more suitably colored. Canada was at war, and civil planes were distinctly at a premium. The studio's advance-agents had done a really heroic job in rounding up the five airplanes we used, and five identical land-planes to use for later sequences, doubling for the others with their fowl's changed for wheels. Our time was short, and we had a lot of difficult action to film, so we worked with what we had, and fixed it. Had the planes been painted more suitably, as the studio's own art department and all the flying specialists recommended, I am sure the scenes we got would have been considerably more effective on the screen. We proved it later, I think, when we re-shot the sequences devoted to R.C.A.F. training, and were able to work with the bright-yellow "Flects," North American "Harvards," and Parnoy "Banties" the Royal Canadian Air Force uses for training.

Lighting and exposure are of course important. To bring out the best color-contrast in aerial color-scenes, a fairly flat front-lighting is preferable, unless one is flying over hills or mountains.



country, where of course more of a cross-lighting is useful to accentuate the contours of the hills. Back-lighted effects over water or clouds, and in sunsets, are effective, but they should be avoided in photographing thrill action and the like, for the back-lighting often glitters off the polished surfaces of a plane's wings and washes out the color. Then, especially if the plane is headed toward or directly away from the camera, it becomes almost invisible until it approaches closer, or a chance glint of highlight reveals it to you.

In determining exposure, the best practice is to follow religiously the dictates of a dependable reflected-light meter. For Technicolor, the regular Technicolor series are excellent; however, I had a meter of my own—a battered old anemometer meter (a "Tempephot," I think it is called) that I picked up in Germany a number of years ago. I had it recalibrated for Technicolor, and found, to the great surprise of the Technicolor engineers, that it was quite as accurate as their own special meter, and considerably quicker to use. Speaking generally, I'd say any photoelectric, reflected-light meter you'd have using successfully for black-and-white can serve excellently as a guide to exposure in making aerial color scenes.

Weather-conditions are important, as always, but with a difference in black-and-white you can, by means of filters, infra-red film, and the like, often penetrate visual haze to a surprising degree, and get a good deal more in your negative than you can see with your eye. In photographing color in the air, your eye is a very accurate guide to weather conditions: as Bell & Howell used to say in their famous advertising, "What you see, you get."

One of the biggest problems in aerial Technicolor cinematography at present is the unwieldy bulk of the three-film Technicolor camera. I have noticed that from time to time production cinematographers have commented on the way

this factor sometimes makes things a bit unhandy on the ground in studio or location. In the air, it is very much more of a handicap. There is never any too much room for camera-manipulation in any plane. In addition, the slip-stream is rushing by you at several hundred miles per hour, and if your camera is—as it sometimes must be—out in the open, the wind fights like a giant to keep you from getting the shot you want.

This can, to a certain extent, be surmounted by mounting your camera as we did, inside a cabin plane, and shooting through an open door. On both of these pictures, we used the same camera-ship—a big trimotored Sikorski monoplane, originally built for airline service. There were two doors provided fortunately in line with each other on opposite sides of the fuselage, so that we were not too badly restricted. A special camera-mount was developed for the job. It consisted of an extensible track on which, by means of a rack-and-pinion movement, the camera could be moved from one side of the ship to the other, and if necessary even extended several feet outside the door. We kept the camera inside the ship as much as possible, however, for work it extended out into the 200-mile-an-hour slipstream breeze on the bulk of the big three-film camera made it extremely difficult to manipulate.

Where a free moment of this nature is necessary, by the way, we learned that it is by far the best to use one of the big Mole-Richardson geared pan-heads. Our outfit was equipped with a friction-type forehead, and when the weight and unbalance of the camera were combined with wind-resistance in the slipstream, it became almost impossible to manipulate the camera with any accuracy. It was certainly a strenuous job!

In making scenes in which dive-bombers or pursuit planes make almost ver-

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Top, left: Cinec 5000 A.S.C., with the rotating camera mount, before two glass runs of this mount, note extensible track. Bottom: Technicolor camera in fixed mount.



Kellino and his camera were catapulted much as this U. S. Naval training plane is being "flown" from a battleship. Plane catapulted in over 40 miles per hour in about 40 feet.

ROY KELLINO FILMS BRITAIN'S WAR EFFORT

By W. G. CAMPBELL BOSCO

DURING the last year or so many of the industry's ace cinematographers have disappeared from the Hollywood scene to enlist in the service of Uncle Sam. Since December 7th, even more of the most distinguished names in the A.S.C. roster have shown up in the rolls of the U. S. Army, Navy and Air Force photo sections.

In the all-out effort necessary for the successful prosecution of modern, "total war," the mobilization of every percentage skill or profession that can be coupled with the War Effort is required, and the skill of Kellino's camera men serving with Uncle Sam will prove a valuable contribution in that effort.

How much, and in how many ways, the motion picture is being used by the armed services cannot be fully told yet. But it is no secret that among the duties of these military cameramen will be not only to turn out training films, but to record actual action, both behind the scenes and in the front line, of the epic drama in which we are now engaged, a drama of such stupendous proportions that it dwarfs into insignificance even the most super-colossal production these

lenses had previously recorded for the amusement and amusement of the cinema-going world. Much of the footage acquired at the scenes of action will be used to satisfy the public interest in "what's going on." We're all in this, in one way or another, and it is considered essential to civilian morale and a sustaining high spirit that we be shown "what's going on" through the realistic medium of the motion picture.

Some idea of what our Hollywood cameramen will be doing in the services "for duration" can be gleaned by re-creating some of the experiences of one of England's most successful young directors of photography, a friend and schoolmate of the writer, Roy Kellino.

In England, the valuable work of the cameraman in wartime has been clearly recognized. They are known as the "front-line propagandists." And the use of the term "front-line" is no exaggeration. Up to the last information received, Roy Kellino had seen action at Narvik, Dakar, Freeport and the Italian naval bases. . . . traveled 46,000 miles at sea within three months . . . photographed dog-fights, "weeps," parachute jumps

and aerial torpedo attacks carried out by the Fleet Air Arm.

Once, while under submarine attack, he ground out a photographic record of the action which included scenes of a torpedo churning relentlessly towards the boat upon which he stood, and missing by scant yards.

Roy is also credited as one of the very few cameramen to have ever been catapulted, complete with camera, in a plane from the deck of a warship.

"It was no tea-party!" he said. "It was like being hit in the back with a sledge-hammer." He goes on to say, "I took with me an ordinary Mitchell camera, electrically-driven, such as we use in the studio. I switched on just before the bump came, and the camera fell in my face. But it didn't stop turning. It did its stuff beautifully and the results, photographically, are terrific."

The catapult experience was one of many Kellino had in getting scenes for "Ships With Wings." Made with the fullest cooperation of the Admiralty, "Ships With Wings" might give us a hint as to what are the efforts of our absent Hollywood cinematographers will be put. It is an actual record of contemporary warfare, containing an infinity of authentic facts and picturesque in detail, into which a story has been woven to give shape, clarity and continuity to the issue.

"Convoy" was similar. In making "Convoy," Kellino ran the gamut in seascap transportation; from the sleek decks of a modern cruiser to the rolling, pitching decks of a destroyer on duty and then to a noted, toiling collier—one of these brave little ships who contribute so gallantly to maintaining the lanes of Empire.

Kellino saw action, too, from the decks of the famous aircraft carrier "Ark Royal." And he found out that he had to hush his tripod to the deck loosely, in a special manner, so that the shock of firing the great guns would not splinter the legs of his tripod. He also found a substitute for the indispensable studio "dolly" in a torpedo cradle—one of these wheeled contrivances used to bring the 18-foot projectile to the firing tube. He reports they make an excellent substitute for a camera dolly and are much better adapted to the confined space on a gun-of-war!

While waiting to hear about the new assignments our English friends have been sent on we should be getting word from our own Hollywood contingent. They have a great job to do and we know they will do it nobly. The entire world and its posterity will owe a debt of gratitude to those "recording angels" who make the photographic record of Uncle Sam's righteous wrath in all its might, and in the eventual victory. END.

TWENTY years ago a virtually unknown young cameraman approached Fred Niblo, who was then one of the industry's greatest producer-directors, and asked for the chance of photographing Niblo's next production. "You don't know me, Mr. Niblo," he said, "but I know I've got the ability to give you the best photography you ever had. Just to prove it, I'll make you this proposition: let me work on your picture just one day. If when you see the rushes you aren't satisfied with my work, you can not only fire me—I'll pay whatever it costs to retake that day's work!"

History doesn't record what Niblo thought, but he probably reasoned that there might be something behind such enthusiastic confidence, and he could hardly lose, anyway (he didn't realize that the earnest young man before him hadn't enough in the bank to pay for even a single scene's retakes!) At any rate, he agreed to the tryout. And for once, the Honako Alger formula worked as successfully in life as in fiction: the first day's takes proved conclusively that the young man knew his camera. So did the next day's, and all those that followed. "Thy Name Is Woman" became the first of many notable Fred Niblo productions which bore the credit "Photographed by Victor Milner, A.S.C."

That incident was probably the start of Vic Milner's career as an ace cinematographer—a career that has since led to a well-earned Academy Award and universal recognition as "the old maestro of lighting." But it wasn't his real start in cinematography by a long shot. You can talk all you want to about the "instinct for photography," Milner unquestionably had it, but before he could capitalize on it by masterfully gabbling—and making good—on his ability to photograph a major superproduction, he had to spend many long years learning and mastering the technique of the camera. He learned the hard way, too.

Rather more than thirty years ago Vic Milner was a gangly, red-headed operator at a New York "nickelodeon." And as he cranked the show's five flimsy reels through the projector by hand, he fell in love with a picture. It wasn't the shadowy image of any 1910 gladiator, nor the powder-punctuated heroics of a cowboy hero. It was an inconspicuous little "flick"—a Pathé travelogue.

This particular picture was a travelogue of the ice-peaks of Spitzbergen. Whoever photographed it had done so exquisitely, capturing the fascinating interplay of dazzling highlight and almost opalescent half-shadows which brighten the other-worldly beauty of a sunlit iceberg.

Again and again young Milner ran it through his projector, feasting his eyes on the strange beauty the camera had captured. Later, on another job, he ran it again. It crystallized his ambition to become a cameraman, and create none of such enthralling beauty with less and light and shade.



Aces of the Camera XIV: VICTOR MILNER, A.S.C.

By WALTER BLANCHARD

The chance came when he got himself a job as an apprentice in the combined camera, laboratory and studio of the passive cine-engineer, Eberhard Schneider. Under Schneider's tutelage, and that of his daughter, who ultimately became Mrs. Milner, the boy learned the cinema craft the hard way. He developed film, printed it, tested, spliced and edited it. Finally, he mastered the craft of operating a camera so thoroughly that his employer sent him out with a customer to photograph what was one of the first feature-length productions made in America—an independently-produced version of "Hiawatha."

It was a success, and Christened Milner, now launched on a photographic career, next spent several years with

another customer, recording the globe making a series of travel-films. Then followed a long and exciting engagement with Pathé News, as one of America's pioneer movie-theaters. How he "scored" our brief war with Mexico in 1914, "singling" the battle of Vera Cruz when he arrived too late to film the actual fight, is an epic in itself, and one which he told most entertainingly in THE AMERICAN CINEMATOGRAPHER some fifteen years ago.

Switching to theatrical camerawork when his bossman brought him to California's budding studios in 1918, he began the hard climb from an assistantship to the post of First Camerographer. He made it so successfully that when the American Society of Cinematographers was organized in 1930,

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A.S.C. on Parade

Oscar

Arthur Edison, A.S.C., Chairman of the Academy Cinematography Award Tellers Committee, announces the following productions as nominees for the annual Academy Award for the year's best achievement in black-and-white cinematography: "The Chocolate Soldier," (MGM) photographed by Karl Freund, A.S.C.; "Citizen Kane," (RKO) photographed by Gregg Toland, A.S.C.; "Dr. Jekyll and Mr. Hyde," (MGM) photographed by Joseph Rottenberg, A.S.C.; "Here Comes Mr. Jordan," (Columbia) photographed by Joseph Walker, A.S.C.; "Hold Back the Dawn," (Paramount) photographed by Leo Tassar, A.S.C.; "How Green Was My Valley," (20th Century Fox) photographed by Arthur Miller, A.S.C.; "Sergeant York," (Warner Bros.) photographed by Sal Pukis, A.S.C., with battle sequences by Arthur Edison, A.S.C., "Bend Sin," (Walter Wanger United Artists) photographed by Charles Lang, A.S.C.; "Sun Valley Serenade," (20th Century-Fox) photographed by Edward Croninger, A.S.C., and "That Hottentot Woman," (Alexander Korda-United Artists) photographed by Rudy Mate, A.S.C.

Nominations for the Academy Award for color cinematography are: "Alone of the South Seas," (Paramount) photographed by Karl Struss, A.S.C., Wilfred Chase, A.S.C., and William Snyder, A.S.C.; "Billy the Kid," (MGM) photographed by Leon and Smith, A.S.C., and William Shull, A.S.C.; "Blood and Sand," (20th Century Fox) photographed by Ernest Palmer, A.S.C., and Ray Kneashar, A.S.C.; "Bluesiana in the Snow," (MGM) photographed by Karl Freund, A.S.C., and W. Howard Green, A.S.C.; "Dive Bomber," (Warner Bros.) photographed by Bert Glennan, A.S.C., and Winston Hoch, A.S.C., with aerial photography by Elmer G. Dyer, A.S.C., and Charles A. Marshall, A.S.C., and "Luminous Pursuance," (Paramount) photographed by Ray Remanson, A.S.C., and Harry Hallenberger, A.S.C.

The ultimate winners of these two Awards will be chosen by vote of the industry's Directors of Photography. Before the final ballots are cast, the films nominated will be shown to the Directors of Photography at a series of special showings every Wednesday and Friday, evening at Warner Brothers Laboratory projection room.

Harry Jackson, A.S.C., Wilfred Chase, A.S.C., and the others of the Twentieth Century-Fox, location unit which was Technicalizing scenes for "Bluesiana in

Tropics" at Pearl Harbor on the day are safely back in Hollywood. But—don't ask them about it. They were so completely in the thick of things that they've pledged wartime secrecy "for duration" along with the regular Navy men.

Add A.S.C. in uniform—Bert Glennan, A.S.C., standing by for War Department orders.

Phil Chancellor, A.S.C., probably taken rank as the A.S.C. member longest in uniform. He's in his third or fourth year of active service with the Navy.

Ray Fenestrom, A.S.C., staunching vein pain tablets after contributing a pint of blood to the Red Cross "blood bank."

Karl Struss, A.S.C., draws one of the top assignments of the year—Director of Photography on Orson Welles' Dollars Do. His starer "Journey Into Fear."

George Fubey, A.S.C., sporting a new Noracod "Diameter" eyepiece-micrometer.



Bryan Haskin, A.S.C., decorates Elmer Dyer, A.S.C., with the "Order of the Flying Work-horse" for his labors in "Dive Bomber" and "Captains of the Clouds," while Winston Hoch, A.S.C., looks on approvingly. We suspect the pic was snapped by the third "Flying Work-horse," Charles A. Marshall, A.S.C., who teamed up with Elmer and Winkle pay-hopping for the two upgrades.

Ted Tetzlaff, A.S.C., seems to be popular with the ladies and gentlemen at Columbia. Just through with a bang-up job of lensing "The Lady Is Willing," he hurries back to film "The Gentleman Shakedown." Both assignments were loan-outs from his home studio, Paramount, where he's waiting a decent script to direct.

Henry Sharp, A.S.C., dropping in to help us review a couple of stand-out Marx commercial films. Thanks, Henry.

Milton Krasner, A.S.C., draws the In-

Barney ("Chick") McGill, A.S.C.

It is with sincere regret that we chronicle the death, on January 12th, 1942, of Barney ("Chick") McGill, A.S.C. Although he had been suffering for many months from a severe heart ailment, his passing nevertheless came as a distinct shock to his wide circle of friends in and out of the industry. Quiet and unassuming, he had, during a photographic career extending over nearly thirty years, carved an enduring place for himself as one of the foremost masters of the camera. To his photographic skill have been entrusted many of the most important productions the industry has made during the last twenty years or more, and many are the stars who owed much of their initial success to his knowledge of lens and lighting.

But it is not for these achievements that Barney McGill will be remembered, but for the rich quality of friendliness with which he was endowed. Never demonstrative in manner or speech, he nevertheless had that indefinable quality which made close friends and casual acquaintances alike feel he liked them personally, and that the world was somehow a lot better for having a man like "Chick" McGill in it. The A.S.C. and its members will miss him as a loyal friend and fellow-worker, and join in extending sincerest sympathy to his wife.

Stacy Woodard

We regret to chronicle also the passing of Stacy Woodard, one of America's foremost makers of documentary films, who died unexpectedly January 22nd. Although his work as a photographer and producer of documentary films kept him so constantly roving that he was not a member of the A.S.C., his face was familiar at the Society's technical gatherings, and his passing will be missed by the members of the A.S.C. as the loss of a valued friend and fellow-craftsman.

Director of Photography assignment on Frank Lloyd's 1942 Edition of "The Spoilers."

Thanks to Ray Foster, A.S.C., for a nice note telling what he's doing in New York now that Warners (with whom he was for eleven years) have closed their East Coast studios. He's just finished the first U. S. Government Propaganda Film, produced for the Office of Emergency Management in Washington by Phil Martin, Jr., with Garret Kavin directing. Titled "The Shield," it's slated to come out with offstage narration by Spencer Tracy.

THROUGH the EDITOR'S FINDER

Fork more than thirty years, the industry has been wont to say "Film is the cheapest thing on the lot." The only thing cheaper was—the tin can the film came in! Successive generations of us have seen them kicked around every studio as valueless, waste material. They've been used as substitutes and spottings in projection-rooms and shops—as handy pans to catch the drip of overflow from machines and in garages—even as dishes to hold milk for the studio cat. Once they'd protected a roll of raw negative or positive film on its journey to us from Rochester or Paris, they'd served their purpose. Who cared what became of second-hand film cans?

Today, we've got to revise our thinking on the subject. Today, those despised film-cans are valuable—worth, perhaps, more than the film they originally contained.

Why? Because they're made, not of tin, but of steel. Steel which is on Priority—steel which is as essential to Democracy's all-out War Effort! If America is to serve, as the President has pledged it must, as the arsenal of the Democracies, every scrap of steel must do its bit. Most of it must go to the task of making guns and tanks and planes and ships wherewith to smother the resistance of the enemy. What little remains for essential civilian uses must be made to do its work as long and as thoroughly as possible, or replaced by some non-strategic substitute.

BUT NO PRACTICAL SUBSTITUTE FOR STEEL, AS A CONTAINER FOR MOTION PICTURE RAW FILM HAS EVER BEEN FOUND! No other material combines the strength, lightness, ductility and resistance to moisture and flame which make steel the legally required container for shipments of nitrate-base film.

Therefore, our industry's film-cans must do their duty not once, not twice, but many times over. Once they have safely transported their load of film from factory to studio or laboratory, they must be rushed back to the factory to serve again and again. This return must be accomplished promptly, for a film-can that lies empty, or a studio shelf as a slacker. It is wasting steel the country needs; it is delaying the shipment of film our industry needs.

Since last August, the film manufacturers have been buying back the cans in which their film was shipped. At that time, the situation was serious. Today, with the nation at war, the situation is critical. It demands the fullest cooperation of everyone in the industry.

Motion pictures are recognized as a wartime essential. So far as can be seen now, there seems little likelihood of any serious shortage in our basic raw material—film. But a shortage of the essential steel shipping-cans could

produce a precisely similar effect. If we keep the film-cans now in existence reeking, like an endless chain, bearing film from factory to studio, and then back to the factory for refill, there will be no such shortage.

THE ANSWER DEPENDS ON EVERY ONE OF US WHO USE FILM, WHETHER IN STUDIO, LABORATORY OR EXCHANGE. If we want to keep the industry's wheels turning, it's up to us to keep the film-cans rolling back to the film-makers for refilling! They'll do their part. Will you do yours?

As the Academy Award season draws near again, we'd like to call attention once more to the traditionally short-sighted policy governing the bestowal of one of the more significant Technical Awards—the Award for Outstanding Achievement in Special Effects. As the rules stand now, this Award attempts to honor with a single plaque the year's outstanding achievement in Special-effects photography—and special-effects, award, as well.

As we see it, there should by all rights be two entirely separate Awards, one for special-effects in picture, another for special-effects in sound. We realize that the Academy officials must necessarily seek to limit the number of Awards, but they become too common to convey the distinction they should properly imply. But in this case, awarding a single token for both picture and sound is unfair to the many skilled workers in both fields. Once, perhaps, in a rare long while there may be a picture such as was "Spoken of the North" a few seasons ago, which combined genuinely outstanding achievement in special-effects work in both sound and picture. More often, it is precisely the reverse.

Furthermore, the committee which decides the bestowal of this Award is composed of men from both fields, and often art-directors, as well. And while each has, no doubt, from experience, some idea of what constitutes outstanding achievement in the other field, he is hardly qualified to judge outstanding achievement outside his own specialty. We know of instances in which the Award was given, by the combined vote of the sound-technicians and art-designers, to a film which, while excellently re-recorded and with excellent track sets, was none the less a very inferior example of special-effects photography, especially as compared to some of the other entrants. The tables may well be reversed, with the photographer art director vote favoring a poor recording job, and so on.

If any one suggested seriously that Joe Louis defend his championship with one hand tied behind him, or that Joe DiMaggio bat with a cricket-player's

underhand stance, the resolute would ring with indignation at stupid officialdom's attempt to shackles an outstanding performer! But in some of our studios, something very similar seems to happen. They sign up the best directors of photography available to them—men who have made top reputations for individual skill and artistry. And, judged by the results on the screen, they seem to shackle these highly-paid artists by insisting that all photography on the lot conform to rigid, if perhaps unwritten, regulations dictated by the personal preferences of someone in authority. It is hard to say precisely who is the responsible official: in some instances, it may be a camera or laboratory head; in others, it might be some other official. But the result is the same: photographic speaking, one picture from one of these studios looks very much like other pictures from that studio. Any of them might conceivably have been photographed by the same man.

There may be a reason for it, but to us, a policy like that doesn't make sense. The studios hire these cinematographers because they had the reputation of being highly-skilled individual artist-technicians. They pay them generous salaries because, as the contracts specify, their services are "artistic" and of a unique and irreplaceable nature! Moreover, the cinematographer of any major studio are sufficiently mature to merit being allowed to do their work without being told how to do it. Men who have been photographing major productions for twenty or thirty years are pretty thoroughly dry behind their professional ears.

It is to be granted that a reasonable coordination of materials and methods is desirable in any business on the scale of a modern studio, but in making motion pictures, artistic individuality is also a salient commodity with box-office value. You would not ask Paul Muni to employ Lou Costello's acting technique just because both happened to be on the same payroll, nor would you insist that Bette Davis ace Carmen Miranda simply because both happen to be actresses. Why, then, should Cinematographers A, B and C be forced to limit themselves to identically similar photographic standards simply because all three are filming different pictures on adjoining stages of the same studio? If they do so, all three may well be pleasing some studio "boss hat" idea of good photography; but if all please one man or group of men, they will as certainly be displeasing some other groups of the ultimate paying public, who have other concepts of what good camerawork is. But if each cinematographer could work freely, expressing his own artistic concepts, some portion of that studio's product would inevitably be pleasing to every portion of the vast audience whose quarters and half-dollars make our industry possible!

PHOTOGRAPHY OF THE MONTH

In view of the lateness of many of the reviews which have appeared in this column during the last several months, and the fact that many excellent pictures have not been reviewed at all, we feel that a word of apology and explanation is due the readers of *THE AMERICAN CINEMATOPHILE*, especially since many of them have told us they rely on these reviews almost completely in choosing their screen entertainment. The fact of the matter is that during the last four months, since the so-called "circuit decree" changing the methods of marketing pictures became effective, the major studios' previewing system has been completely disrupted. Where previously all films were previewed for the press immediately on completion, today the majority of major-studio pictures are not press-previewed until immediately before (or even after) they open for regular showing in a Los Angeles theatre, and many excellent productions are not previewed at all. Due to a shortage of first-run theatres in this area, and to the extended runs given many outstanding productions, this policy has resulted in serious congestion, and in many instances in "previewing" pictures which have actually played for a month or more in most other parts of the country, and in some instances even in London and other overseas centers.

To be perfectly fair, we believe that this situation is as galling to the studio publicity heads responsible for showing films to the press, and to the Publicity Directors' Committee of the Producers' Association as it is to us and to our readers, but it seems to be a question with many intricate legal and business problems to be solved before a satisfactory answer is reached. Efforts are being made by all concerned to straighten things out, but until then we can only offer sincere apologies to our readers, and to the many Directors of Photography who do meritorious work and yet fail to see their films reviewed here.

THE EDITOR.

HOW GREEN WAS MY VALLEY

Twentieth Century-Fox Production
Director of Photography: Arthur Miller, A.S.C.

The results of the Academy Award balloting won't be known for another

month yet, but Arthur Miller's achievement in bringing this picture to the screen is sure to rank very close to the top in any listing of the best photography of 1941. To our mind, "How Green Was My Valley" rates as one of the two supreme examples of fine photography in a year which had more than its full share of outstanding camerawork.

The atmospheric keynote of this story of the Welsh collieries is realism—but it is realism leavened with richly human emotion and character. Bringing it to the screen, Miller makes eloquent use of the modern increased-depth technique. But he does it without lapsing into the brittle artificiality which has so often accompanied the use of this technique. His scenes have depth—often to a surprising degree—but they also have qualities of "good photography" which are all too often lost in attaining increased depth of field. His scenes have depth, yes; but they also have a lifelike roundness, a soft plasticity of image, and a pleasing gradational range which have all too often been sacrificed in pursuit of depth. If in "Citizen Kane" a new photographic concept was born, in "How Green Was My Valley," it comes of age.

Miller's achievement is a great one, though, not so much because of his perfected use of this modern technique, but—and most importantly—because of the sensitive artistry with which his photography is attuned to the many-changing emotional moods of the story. There are moments of deep tragedy; there are other, thoroughly natural moments of light humor and tender romance; over all is an atmosphere of somber foreboding, coupled with an indescribable nostalgia for a way of life that is forgotten. Miller's camera, composition and lighting follow these moods and enhance them with flawless perfection. It is in no way detracting from the powerful story, from John Ford's inspired direction, or from the deeply moving performances of every one of the players to say that without the perfect sincerity of Miller's camerawork, "How Green Was My Valley" would not have been the deeply human document it is. Many critics have remarked on the humanness of this picture, and have commented on the way it seems not so much a staged photograph as a reflection of life itself. In so doing, they have—by ignoring it—and the supreme tribute to Miller's achievement in photographing a great picture so perfectly that even a hardened cynic goes forgets the camera and its works.

CAPTAINS OF THE CLOUDS

Warner Brothers' Production (Technical)

Director of Photography: Sel Potts, A.S.C., and Wilfred Cline, A.S.C.
Aerial Photography by Elmer G. Dyer,

A.S.C., Charles A. Marshall, A.S.C., and Winston Hoch, A.S.C.

Special-process Photography by Byron Haskin, A.S.C., and Rex Wemy, A.S.C.

It is a lasting pity that "Captains of the Clouds" could not have been released soon enough to qualify for this year's Academy Awards, for it is without doubt of Academy Award caliber, photographically at least. It is at once one of the technically finest and most artistically expressive examples of Technicolor camerawork we've ever seen.

On the "production" side of the picture, Cinematographers Potts and Cline have given "Captains of the Clouds" some of the most expressive mood-lightings this writer has seen in a Technicolor production. With no sacrifice of naturalness, Potts and Cline have given the picture very much the same mood-treatment and lightings they would have employed for the same action in black-and-white. The result is immensely superior to the characterless, flat-lit Technicolor so often seen.

The aerial camerawork by the redoubtable triumvirate of Dyer, Marshall and Hoch is another asset to the picture. There are many extremely spectacular flying sequences throughout the production, not only in the "rush-flying" sequence which comprises roughly the first half of the picture, but also in the later sequences in which the protagonists are shown as members of the Royal Canadian Air Force. They're photographed with a deceptively unobtrusive skill which is apt to make one overlook the real skill and courage which went into bringing these shots to the screen. The work of these three aerial specialists is also coordinated with such remarkable team-play that all of these might have been lessed by one man, rather than by three.

The special-effects camera contributions of Byron Haskin, A.S.C., and Rex Wemy, A.S.C., are equally outstanding. Their properties-background work is particularly excellent, and the use of miniatures, and the like, for several airplane crashes, and especially in the climaxing sequence which the bomber tears the Messerschmidt pursuit-plane is an outstanding example of how this type of camera-trickery can be constructively employed for action which could not be filmed in any other fashion.

The Technicolor laboratory rounded out the perfect circle of achievement by turning out—at least in the print we viewed—the finest Technicolor print we've ever seen. In most Technicolor films, there usually seem to be at least a few scenes in which the color-balance seems off, or the definition lacking; but with the exception of a few scenes obviously shot rather late in the day, there was scarcely a frame in "Captains of the Clouds" which was not technically perfect.

BALL OF FIRE

Samuel Goldwyn Production, RKO Release

Director of Photography: Gregg Toland, A.S.C.

A few days before he left Hollywood to take up active service with the Navy, Gregg Toland remarked to the writer that in many ways "Ball of Fire" was the most difficult assignment of his career, but that in all probability neither the general public nor even the average technically-inclined viewer would realize it. He was quite correct in this: He has earned out his part of the assignment as well that even the technician is not apt to notice the inevitable problems created by having large groups of people (many of them elderly, non-hearing character actors) crowded into cramped, dark-walled sets, and constantly in motion.

"Ball of Fire" carries along the "pan-focus" technique Toland pioneered on "Citizen Kane," but, due to the nature of the story, on a more restrained scale in this amusing comedy. He has, I should say, considerably better luck with his three-dimensional compositions than he had in "The Little Foxes"; certainly, they are more easily followed and seem less studied. His modeling and tonal scale, though kept predominantly in the crisp, fairly high key the action warrants, are a further improvement over his previous release.

His treatment of the players is uniformly good, though he does not seem to have fared as well as usual in lighting Barbara Stanwyck. However, you probably won't notice this—the picture is much too good entertainment!

THE LADY IS WILLING

Columbia Production.

Director of Photography: Ted Tetzlaff, A.S.C.

With Ted Tetzlaff, A.S.C., as director of photography, and the personality-minded Mitchell Leisen as director, it goes without saying that any picture would be pictorially interesting. "The Lady Is Willing" more than lives up to it, for story, atmosphere and setting combine for pictorial effect, of which director of photography Tetzlaff takes full advantage.

A great deal of the action permits highly pictorial low-key lightings which, in the main, he handles very effectively. In a few, however, he seems skaling very near the danger-line of dropping into too low a key for even Columbia's amazing laboratory to handle. His compositions, too, are highly pictorial, though once or twice they seem a bit too studied, and in one or two (as in the effect-lighted shots of Fred MacMurray playing the piano) pictorially intrusive elements are allowed to intrude, apparently for added pictorial effect.

Tetzlaff's treatment of Madeline Dietrich is outstanding. For the first time in quite a number of pictures, she has an opportunity to be glamorous, and Tetzlaff's camera and lighting make the most of it. He has—Allah be praised!—

managed frequently to break away from the overly hard, extreme high-angle key lighting which for so long assumed the inevitable Dietrich trade-mark, and done so with extremely flattering results. Frankly, we've seen the lady photographed by many outstanding members of the camera profession, but not since some of her earlier pictures (made many more years ago than do a glamorous any good) have we seen her photographed to such good advantage. Miss Dietrich would be very well-advised, indeed, to insist that Tetzlaff provide over her cameras on her every future appearance.

BAHAMA PASSAGE

Paramount Production (Technicolor).

Director of Photography: Leo Tover, A.S.C., and Allan M. Davey, A.S.C.

"Bahama Passage" is one of the more disappointing major releases of the season. It brings some excellently-technicolored glimpses of interesting and unfamiliar locations, at least two very capable characterizations of a pair of apparently neurotic people—and a definite sense of fun; but not at all in tune with the times.

Cinematographers Tover and Davey have nevertheless done a workmanlike job in photographing the picture. Quite a bit of the picture was photographed on location in the Bahamas—an interesting background, but by no means conditions conducive to the best of glamour-photography. Many other scenes had to be matched to those shots on the studio's process-stage. All told they and transparency process expert Farret Edouart have done a remarkably fine job technically. However, it seemed to this reviewer that they had lost a number of opportunities to put visual mood and feeling into the picture—possibly because of the necessity for maintaining a consistently high-keyed and somewhat flat lighting, to get over the impressions of tropical heat.

They seemed handicapped in their treatment of the glamorous Madeline Carroll by some extremely poor makeup, and possibly by someone's insistence that in many scenes she should look sun-bronzed and wind-blown, which certainly did not add to her glamour, nor give much credibility to the hero's ultimate preference for her instead of the decidedly better-photographed Mary Anderson.

The brief underwater sequence—actually photographed underwater, we understand, through the well-known Williamson camera-tube system—is really interesting, as is the sequence in the underwater cave which, so we learn, was also exactly what it represents, and photographed in the Bahamas, and not a studio set. Farret Edouart's handling of the projected-background ("transparency") scenes—especially his skillful blending of the foreground water and the background plate in the many sailboat scenes—is a real highlight of the film. The opening titles show a clever idea we'd reconsidered

to use amateur in search of a clever way to open a home movie on yachting.

THE CHOCOLATE SOLDIER

Hietz-Goldwyn Mayer Production

Director of Photography: Karl Freund, A.S.C.

MGM has been remarkably reticent about previewing many of its films these last six or eight months. Several which we understood to have been among the studio's best photographic jobs have gotten into release without our having an opportunity to see them. But among the ones we have seen, "The Chocolate Soldier" stands head and shoulders above the rest as the finest example of photography we've seen come of the MGM lot this last year. Karl Freund, A.S.C., richly deserves the Academy Award nomination this picture has brought him.

This production brings Freund something that doesn't too often come any cinematographer's way these days—a legitimate opportunity for highly pictorial, romanticized cinematography. And he makes the most of it. His lighting and compositions are a delight to the eye in virtually every scene—the sort of thing which makes the reviewer dust off such adjectives as "rich," "eye filling," and that overworked word, "magnificent." He makes frequent and eloquent use of effect-lighting, and throughout the picture maintains a visual uniformity and gradational range which have to be seen to be appreciated.

If you're interested in seeing some of the year's finest pictorial photography, and not too allergic to Nelson Eddy's dead-pan heroics and a leading lady several degrees inferior to Jeanette MacDonald, not to mention the rather implausible story he lashed from the stagey old piece "The Guardsman," we can honestly urge you to see "The Chocolate Soldier."

PACIFIC BLACKOUT

Paramount Production.

Director of Photography: Theodor Sparkuhl, A.S.C.

We understand that the Defense Authorities object strenuously to "Pacific Blackout" (made considerably before Pearl Harbor) because they say, it's a perfect exemplification of things set to do in a blackout. We can understand that, if you've been in even a grade B actual blackout, you'll realize that cinematographer Sparkuhl manifestly had to show a good deal more illumination than would actually be visible in even a practice blackout. But then, even in the interests of realism, audiences could hardly be expected to come in to see only a jet-black screen! And if you take the picture in that spirit, you'll find "Pacific Blackout," both as photography and as entertainment, an excellent, fast-moving "who-dunnit."

Director of photography Sparkuhl has certainly done an excellent job, and one beset with almost endless technical difficulties. Virtually the whole of the action takes place not only at night, but during a blackout. His task of suggesting

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AMATEURS MAKE DEFENSE FILMS!

By WILLIAM STULL, A.S.C.

AMERICA'S cine-amateurs are turning their skill, their equipment and their uncomparable enthusiasm into the making and showing of films for Civil Defense! The huge task of training and mobilizing America's civilians to play their part in modern "all-out" war has created an unprecedented need for well-made instructional films on a wide variety of Civil Defense subjects, and for a tireless campaign to assure that these films be shown in every part of the nation. The various Government film units are doing their part to get this program under way. The professional film industry is marshaling its forces to make and show Defense Films. And supplementing these obvious activities, America's amateur filmmakers—individually and through their organized clubs—can play a great and valuable part in bringing these necessary messages before their fellow-citizens.

America's amateurs are rising to the need, too. The first shock of Japan's knife-in-the-back attack on Pearl Harbor had scarcely begun to subside before THE AMERICAN CINEMATOGRAPHER began to receive inquiries from individuals and clubs throughout the nation, all asking the same question—"What can we do? How can we turn our skill and equipment to the benefit of our country in this emergency?"

Already they are finding the answer. At least one club—the progressive Long Beach (Cal.) Cinema Club—is entering active production on a series of films made at the request of local and State Defense Authorities. Other groups, not only in the immediately-threatened coastal-cities, but in the inland regions, as well, are following suit. Many others are standing by, ready to do their bit as soon as they find clearly what is needed.

With America's participation in the war still measured only in weeks, it is inevitable that a certain amount of confusion should exist in so enormous an enterprise as this country's Civil Defense program. But certain facts stand out already. Motion pictures are unquestionably going to play a key part in mobilizing the nation's civilians for their wartime duties, and training them in wartime safeguards. Professionally-made 35mm. films cannot carry all the load; such films, exhibited in theaters, can reach an enormous audience, but by no means the entire population. For this reason, films are going to be employed more and more extensively so that the messages may be brought home to Mr. and Mrs. America and their children not only in theaters, but in their schools, clubs, churches, factories and community gatherings. Some subjects, moreover, will require treatment in so detailed a manner that they would not be suitable for theatrical showing, no matter how accurate

they may be for instruction in factories, in Civil Defense meetings, and the like. Only with the ubiquitous 16mm. projector can these instructional movies reach out on a large scale beyond the theatres, and into the private life of the nation.

Exactly as much of the Civil Defense Program is being carried out on a volunteer basis, so, too, can much of this Civil Defense filming be carried out by volunteers from among the nation's amateurs. But if this is to be done, three primary cautions must be observed. The films produced must be authentic. Wasteful overlapping and duplication of effort must be avoided in so far as is possible. And finally—but of the greatest importance—the films themselves must be technically good, if the whole idea of amateur participation in this vital program is not to receive an initial setback from which it could never recover.

THE AMERICAN CINEMATOGRAPHER offers its every resource to aid in coordinating the Defense-film work of America's amateurs. As an initial step in bringing about this necessary coordination, we urge every amateur or club interested in participating in this patriotic work to keep as informed of its program and progress, and of the equipment available for both making and showing 16mm. films. We urge every individual reader to fill out and mail us the questionnaire on this page to help build a systematic index of the nation's movie-making resources. This information will not be utilized commercially, but kept to aid all Defense Film agencies in their task of mobilizing whatever may be needed in any project of making or showing substandard film to aid the War Effort.

We are, at the same time, keeping in touch with national defense authorities to obtain fullest information as to what is already being done, and what is needed. In close collaboration with Saul Elkens, 16mm. film coordinator for the Los Angeles County Defense Council, we are working out the details of a system whereby authentic scripts on defense subjects, written by outstanding professional scenario-writers of Hollywood's Screen Writers' Guild and adapted, if necessary, to fit the requirements of films by members of our own staff, will be made available for filming by amateur groups of recognized picture-making ability.

One of the first, if not actually the first of these amateur-made Defense Films to reach the stage of actual production is a film on combating incendiary bombs now being made by the Long Beach Cinema Club. Immediately following the war's outbreak, President Robert Hedley appointed a special committee to guide the group's defense-filming activities. The 1941 President, Mrs. Mildred J. Caldwell, is Chairman of this com-

mittee, with Vice-President Dr. Franz Buegner, former Secretary Ray Fusholtz, and others as active members.

Mrs. Caldwell's committee began its work by contacting local and regional Defense Authorities to determine what type of picture was most urgently needed in her locality. As Long Beach lies in what is technically termed a "combat zone," and is a center of vital Defense Industries, it was determined that the most pressing immediate need was for a film dealing with the correct methods of handling incendiary bombs.

With local, county, state and national authorities collaborating to insure complete technical authenticity, the Club's Scenario Committee turned out the script, and the film got into production.

The necessary funds to defray the cost of the production, sound-recording, etc., are being raised by various Long Beach business groups who prefer, for the moment, to remain anonymous in their patriotic contributions. Construction of the sets and the fire-fighting technique is being supervised by the Long Beach Fire Department, of which Chief Claude Evans is not only locally in charge of this phase of Air Raid Precautions instruction, but also a very active member of the Cinema Club. The Fire Department's official cinematographer has been assigned a cine-camera and a supply of Kodachrome with which to photograph an actual fire to provide needed scenes for the film. Every effort is being made to ensure technical accuracy in every detail.

Club equipment of all types is being pooled to provide the best and most ample facilities for photography and lighting. Mrs. Caldwell has even purchased a Cine-Kodak Special to facilitate the making of some of the more intricate special-effects sequences, which would be difficult or impractical with less advanced equipment.

The picture is being shot silent, but using the 34 frame sound speed, so sound, in the form of offstage narration and sound-effects will be added to the completed production. Mrs. Caldwell has selected Kodachrome film, not only because the use of color may be expected to minimize the problems of grain, etc., in the event that the film might merit national distribution in either 16mm. or 35mm.

The completed film is to be submitted to the national Defense Authorities, so that if they desire, additional copies may be circulated nationally, as well as locally.

The experience this group has already had in launching its project affords several lessons which should certainly be heeded by any other group planning a similar activity. Common-sense provides a number of "do's" and "don'ts" for Defense Filmmakers.

First of all, make your film technically

authorities—or don't make it at all. An "instructional" picture which is actually misleading is worse than no picture at all.

Therefore, no matter how eager you are to get into production, take time to check and re-check your facts with every possible authority—municipal, local, regional and, if possible, federal—to make absolutely certain not only as to what facts must be presented, but as to how they ought to be presented. Don't rely on your own judgment; it may be wrong. As an example, one out of ten of us, in writing a script for a film like this one on fighting fire-bombs, after detailing the necessary and unfamiliar routine of bringing the secondary blast under control, would instinctively end up with an addendum to call the local fire department—which, in wartime, is precisely the one thing the civilians must not do in a raid!

Secondly, know beforehand that your picture-making technique is equal to the task. Making these pictures is no longer merely a sport or hobby: it is doubly serious business. If you can't do a good job, don't attempt it; step aside and leave the field clear for someone who can. Don't give America's really capable amateur filmmakers a black eye!

We, personally, have faith in the abilities of America's cine-amateurs. We're sure enough of their work to know that at their best, their capabilities are of virtually professional calibre. But Defense Officials cannot be expected to know this. Many of them have to be unsold on the idea that an amateur is just another well-meaning dilettante who isn't good enough to be a professional. One amateur who does a bad job on a Defense Film—one amateur who is so unsure of his technique that a good scene becomes an unexpected adventure—who exposes a hundred feet of film to get one acceptable five-foot scene, or who loses his head in the filming of crucial action, can by his bungling shut the door against the worthwhile participation of a hundred capable cinefilmmakers.

Don't attempt production on a shoestring. Just because your technical crew, players, and other helpers are unpaid volunteers, don't fool yourself that your only costs will be for film. Sound-recording, laboratory-charges, sets, costumes, properties and a thousand-and-one "incidental" must be provided for, or you will find yourself with a half-completed film on your hands—and no way of finishing the job. By the time you've made, edited and titled your film, added the necessary sound, and provided for at least the first composite sound-and-picture print, you'll have an outlay of at least \$500 to \$1000 per 400-foot reel. If you or your immediate filming group can't swing this budget, don't expect to saddle your local Defense Council with it, and don't attempt to "promote" it all of it from your local photographic dealers. They'll be glad to help, of course; but remember priorities have affected their business, too, and badly. Local Chambers of Commerce, service and business clubs, and individual business organizations can usually be persuaded to help underwrite

Defense Filming Roll-Call

In order that we may be able to cooperate effectively with both Defense Authorities and with amateurs and clubs interested in taking part in such work, we hope all readers using substandard equipment to fill out this questionnaire and return it to us at once. This is not in any sense an official registration, but merely our own way of collecting information essential to efficient participation by amateurs in Defense Film activities. The information gained will be placed at the disposal of Defense Authorities and may reach amateur clubs with Defense Film to make or show, but will not be used for commercial purposes.

A. Camera Equipment

1. Make?.....Size?.....
2. Make and Model of Camera?.....
3. Camera speed?.....
4. Lenses?.....
5. Recording Equipment?..... Film?..... Disc?.....
6. Tripods?..... Mirrors?.....
7. Lighting Equipment?.....

B. Projection Equipment

1. Make?.....Size?.....
2. Make and Model of Projector.....
3. Reel capacity..... Lamp Wattage.....
4. Silent?..... Sound?.....
5. Size and Type of Screen(s).....

C. Experience

1. Amateur?..... Home Professional?.....
2. How long have you been making movies?.....
3. Have You Made any Sound Films?.....
4. Are you accustomed to electric light?.....
5. Can You Operate Sound Projection?.....
6. How much film do you shoot per year?..... S&W?..... Color?.....
7. Do you specialize in any type of subject?.....
8. Have you made business commercial or educational pictures?.....
9. Individual or Club members production?.....
10. Cine-Club Membership?..... What Club?.....

D. Personal Information

1. How much time could you give?.....
2. Could you give 1 or an unpaid volunteer basis?.....
3. Could you do it making time?..... Showing them?.....
4. Age?..... Any Physical Disabilities?.....
5. Are you subject to Military Service?.....
6. Married?..... Single?.....
- Signature.....
- Street address.....
- City..... State.....

an enterprise like this, once they're convinced of the need for such a film and the dependability of the people making it. But don't go into production before you know where your production costs are coming from!

Don't let local or personal rivalries creep in to jeopardize this work. The cause you're working for—of making your country and its citizens secure—is bigger than any individual.

Many clubs have a nucleus of two or three top-flight members of very nearly equal technical abilities, but between whom more or less rivalry exists. Sink these rivalries—or they'll sink your filming project! In a job of this magnitude, there is room for every capable, loyal worker, but none for the prima-donna who wants all the glory for herself.

Remember that team-work is the secret

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on the shelf to gather dust and deterioration, either. Instead, it means giving them the physical protection they need so that in projection they won't get scorched up and worn out prematurely by projector-scratches, oil-spots, fingerprints, and so on.

First of all, I'd suggest that you make sure your projector isn't doing anything that will injure film. Clean the gate carefully with the aperture-brush the manufacturer supplied (if you still have it), removing any stubborn specks of hardened emulsion-scrap or dirt with your wife's orange-wood manure tool covered with some soft, lintless cloth. Then take a few feet of fresh film—preferably film which hasn't been projected—and make a loop of it. Thread this through the projector and run it continuously for ten or fifteen minutes, and see if any scratches develop. If any serious ones do, I'd suggest you have the projector checked over by an expert, either at the factory or at some dealer in whose repair-shop you've genuine confidence.

in wettest form, it has absorbed from 18 to 30 times its bulk in water, and is perfectly fluid. Unlike crystalline substances, the gelatine molecules (which the chemists classify as "colloidal," as they are microscopic and even sub-microscopic in size) absorb and lose moisture slowly, at least at ordinary climatic temperatures. This makes it possible for gelatin to exist in almost any conceivable state between hard solidity and complete liquidity, including, to be sure, semi-liquidity or jelly, as made famous over the radio by Jack Benny's "so delicious favors."

This ability of gelatin to retain various degrees of moisture makes it an ideal carrier for the light-sensitive particles which make up our photographic emulsions. In its fully hydrated, or fluid, state, it permits a thorough, even admixture of the photosensitive elements, exactly as you can sweeten Mr. Benny's "Jello" to your taste by adding sugar with the assistance that the mixer will be completely mixed throughout every bite of your dessert.

PROTECT YOUR FILMS!

By HENRY SHARP, A.S.C.

NOW that America is in the war on an "all-out" basis, we're hearing more and more on the subject of conservation. We're being asked to do entirely without some things (as I found the other day when I tried to buy a tire for my car) and we're being asked to make existing supplies of many other things last longer, and do their work more thoroughly than ever before.

Fortunately for the home-movie maker, his 16mm and 8mm film isn't yet on that critical list of things he can't get any more. In all probability it won't be, either, for we seem to be pretty well off as regards most of its essential ingredients. But the matter of opportunity for further extensive shooting is a horse of another color. Those of us who live, as I do, in the coastal region have already learned that we're in what the Army classifies as a "combat zone," very literally packed (thank goodness!) with all sorts of things that can't be photographed. And all of us are finding that, what with working longer hours and putting in our spare time on various War activities (not to mention toting a Garand for \$30 a month, as plenty of us are doing!), there's increasingly little time for giving the family films a workout.

That means that we'd do very well indeed to see to it that not only what films we may manage to shoot, but also the films we already have, are adequately protected so that they'll last longer. That doesn't mean leaving them

But making sure your projector is Marcellus is only half the battle. If you want to make your films last, you'd better take steps to remedy the various physical weaknesses which make them inherently subject to damage. We're really very fortunate today that there are a number of systems by which film can be, if not, perhaps, absolutely insured from scratches and fingerprints, at least protected from all but the worst of them. And these "worst" abrasions should never occur under the handling of a really thoughtful cine-maker.

There are two sides to this problem of protecting your film. One, appropriately, for each side of the film. Most of us seldom give much thought to the composition of the little strip of film that carries our pictures, but it's a surprisingly complex creation—the more so since it's only a few thousandths of an inch thick. The base of it is a strip of celluloid, 35mm., 16mm., or 8mm wide, as the case may be. On one side of it is coated a layer of gelatin in which is carried the light-sensitive emulsion which records the picture and eventually, after appropriate processing, becomes the picture-image which is projected.

This gelatin which carries the picture is a remarkable thing. It's microscopically thin. It's transparent. It's flexible. And in its relations to moisture, it's unique. In an absolutely dry form, gelatin is a hard, dry solid. In its

In the comparatively soft, porous state in which it appears in the new film we put in our cameras, the gelatin is solid enough so it doesn't disturb the dispersal of the light-sensitive emulsion grains as the film is wound from the feed spool to the take-up spool of your camera. When you have the film processed, this same characteristic permits the developing and fixing chemicals, and the color-developers of Kodachrome, to penetrate the emulsion freely, so that they do their work completely.

In the former state with which we are more familiar with photographic gelatin—the semi-hard state in which it appears as finished film—it does a remarkably good job of holding in place the millions of tiny silver-grains or (in Kodachrome) dye-molecules, which as long as they're in their right places, compose our finished picture.

But at this point the softness and porosity which had been such advantages in gelatin, become disadvantages. The gelatin, in the ideal state, contains between 1/3 and 1/2 water. That is just exactly right to keep it at the best balance between pliability and strength. If it loses more moisture than this, it becomes brittle. If it picks up more moisture, it becomes soft, and very easily scratched. In fact, if the process of picking up added moisture is carried far enough, the gelatin will actually disintegrate. This porosity also encourages defacement of the picture by oil, dirt

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SOME sage once remarked, "There is but the finest of lines between that which is funny and that which is corny." The origin of this astute observation is vague, in fact, there is no certainty that any sage ever really made any such remark, but if he didn't, he should have. Because so many a cine-ham, in his efforts to work himself into his epic, has tried so hard that the results of said efforts end up in something very much off-the-obe.

The term "corny" covers a wide territory, (see Goldwyn's "Ball of Fire") but generally speaking in connection with humor, it is accepted as meaning something that is old-fashioned, over-worked, over-done, painfully obvious, over exaggerated, or out of place.

Planning a movie with a business premise is one of the toughest jobs that can be tackled by the average amateur. And by "average"—look out, here comes another English lesson—we mean the guy with a little 8 or 16mm camera, maybe a projector, speaker and if he's managed to squeeze an extra drop out of the budget, a film-viewer. We don't include the boys with the trick sound equipment in this category, for, although such advanced amateurs unquestionably perform an able and worthy part in elevating the standards of the amateur movie-maker ranks, they represent an elite minority and not the general run of cine-hams, whose problems are the problems of the silent-film maker.

Their stuff appeals for its reception to the eye alone. There is no dialog or sound effects to work with. But the lack of sound should certainly not be looked upon as a limitation. After all, motion pictures are a visual medium and at best, dialog, sound-effects and music are supplementary to the action which is taking place. Some of the most powerfully dramatic as well as the most hilarious scenes in cinema history have been put over to the audience by means of pantomime, without the need of dialog, effects or music. So, in accepting his place as a maker of silent films, the amateur shouldn't labor under any delusions of limitation, but should utilize to the fullest extent the unlimited possibilities of pantomime in telling his story. Don't forget that a guy named Chaplin made some pretty funny comedies with no other sound accompanying them but the chatter of the projector.

But the average cine-ham, when plotting his humoresque, can't think in terms of Chaplin. After all, here was the world's finest pantomimist working with full-scale production facilities. If a lump-pot that would bend like rubber was needed, the prop department would build it. But Mr. Herbert Cine-ham, no matter how badly he wanted a rubber lamp post for some side-splitting gag in his film, would be out of luck. He couldn't get the rubber now, anyway, but even if the Japs would let him, it would probably take a month of his precious spare time and too much of his equally precious spare cash to build



FUNNY---OR CORNY?

By CARL FALLBERG

the darn thing. So, it follows quite naturally that Herbert has to think down to his ability, finances, and facilities when dreaming up a continuity.

Being funny—really honest-to-goodness, sincerely amusing, just not corny—is a tough assignment in any part of the show business. And sometimes amateurs will rush in where even 35mm producers fear to tread. The road to cinema hell is not only paved with good intentions but is also lined with erstalks. We are assuming that the type of funny movie Herbert wants to grand out isn't one of those "Oh, look at that shot of Uncle Gus with grandma's hat on—ain't he funnier's hell!" film-wasters, but a sincere effort to tell an amusing story in good continuity in as entertaining and convincing a manner as possible.

During the making of a 16mm feature western, "Grazing Gulch," which the writer co-produced, wrote and directed, the problem of what is funny came up time and again. We set out to make a sincere, believable story of a holdup and killing of a Wells-Fargo agent in a western mining town, and the bungled efforts of a thick-headed but well-meaning sheriff and deputy to solve the case. It was primarily intended to be a picture of an amusing vein, with just enough serious moments to keep the story solid and provide a good balance. Our premise of believability held us down to keep our humor believable, too, and so we had to steer clear of slapstick

stuff and try to get most of the humor out of our characters and the situations they found themselves in. Many was the gag that was tossed out because it didn't fit into the feeling of the picture, or was out of line, out of character, or just plain corny.

Consistency of feeling is probably the most important factor in any picture. It doesn't matter whether your picture is based on a slapstick premise, with plenty of pratfalls and pee-in-the-face, or depends mainly for its humor on character or situation laughs. One's as good as the other, as long as the laughs are there. The catch is to keep the thing consistent. If it's going to be a slapstick story, keep it that way to the finish. On the other hand, if you've struck a certain note of believability and sincerity in your yarn, do all you can to maintain that. There is no middle right to behold than a gag out of place. Its intended humor becomes only meagresness. In short, corny.

There are plenty of ways to make an audience laugh, ranging from pratfalls up thru the more potent "character touches." The lowly pratfall certainly has its place, but it should be kept there. To depend on it for a laugh solely for what it's worth is dangerous. We recall a scene from an amateur production we once witnessed. It was a murder mystery, very well done, and presented in a serious, convincing manner. Well, we

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Improvising Telephoto Lenses

By PAUL R. NELSON

FOR a somewhat indefinite period generally referred to as "the duration," most of us who take our cameras seriously are going to enjoy the privilege of being unable to buy a lot of things we'd normally consider as photographic necessities. It's a real privilege, too, for the manufacturers of these temporarily hard-to-get cameras, lenses and accessories are doing their part for all of us by turning their resources to the filling of vital Defense Orders for Uncle Sam.

But the fact that we can't always walk into a dealer's shop and buy a tailor-made piece of equipment doesn't necessarily mean we get to do without it entirely. With a little ingenuity, most of us can improvise surprisingly effective substitutes which will take care of us needs until Victory once more gives us the opportunity of buying the regular manufactured product.

Take the matter of telephoto lenses, for example. They're a necessity in filming birds and other elusive denizens of meadow and forest. If you use a 16mm. camera for serious bird-photography, you need an assortment of lenses ranging in focus from two to at least six inches. And if your dealer's wartime stock doesn't include the ones you need, you can improvise substitutes which will fill the bill very surprisingly well.

A telephoto lens, you see, is not necessarily a special and mysterious type of lens. It is actually just a lens with a focal length longer than the type normally used for normal effects on a given

camera. Therefore you can get the telephoto effect you need by simply mounting any reasonably good lens of the desired focal length on your cine-camera. And so even if you can't get the cine-telephoto objective you want, you can get an equivalent effect by adapting any longer-focus lens, from any larger type of camera—including still cameras—to your movie outfit. The business of adapting lenses isn't a new trick, it has been used by still photographers since long before my time; but to many movie-makers it may come as a happy discovery, as it did to me.

A friend and I faced the problem of getting a series of telephoto lenses for our next summer's bird-filming. The first lens we needed was a good 2-inch telephoto. After some efforts to obtain a regular objective of this type, we improvised our own. In one of the local camera stores, we found a 2-inch Graef anastigmat which had originally graced the business end of a 35mm. DeVry newsreel camera. Ten dollars changed hands, and the lens was ours. An evening's work on my friend's lathe turned out a simple adapter which gave the necessary extension and made it possible to fit the screw-in mount with which this lens was equipped to the bayonet-type mount on his Cine-Kodak. The next week-end we tried it out close-upping some obliging seagulls—and we found we had an excellent telephoto—without purchase!

With this trick system, we decided we could carry the same plan along to pro-

vide all the other telephotos we needed. The next one we picked up—also for the proverbial song—was a professionally obsolete lens which, I believe, had originally been used many years ago on some professional Bell & Howell camera. It had a working aperture of $f/4.5$, and a focal length of $3\frac{1}{2}$ inches. The lens was so old neither of us could decipher the manufacturer's name, but it proved, in the tests we made after reconditioning it, to be a very satisfactory lens for our purpose.

To get the next longer-focus step, my friend turned to lenses which had originally been made for still-camera use. He had an Exakta still-camera, which was fitted with a Carl Zeiss lens of $f/4.5$ aperture and a focal length of $5\frac{1}{2}$ inches. It worked perfectly when screwed into an adapter fitting it to his Cine-Kodak.

Luckily for us, all of the lenses we adapted to cine use were already equipped with focusing mounts, so it was only necessary to make adapters which brought the lens to the correct distance from the film plane, to give correct infinity focus, and thereafter focus by the scale already on the lens. It is important, though, when you're making your adapter, to check the infinity focus very critically if you want your lens to focus accurately on the closer calibrations. This can be done by placing a strip of ground celluloid ladder in the aperture, and checking the image by means of a magnifying-glass and, if necessary, a dental mirror.

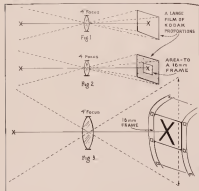
The camera we used was an Eastman Cine-Kodak, which has a special, bayonet-type lens-mount. In this design, the lens-mount consists of a base-rod which attaches to the camera by means of the bayonet pins, and a collar threaded to receive the lenses. Our job was simply that of making a little tube, outside threaded at one end to screw into this mount, and inside-threaded at the other end so that the lens' original mount screwed into it, and of course of the right length to bring the lens into the correct focusing position with relation to the film.

If your camera is built for the more common type of screw-in lens-mounting, your task simpler yet. All you have to do is make a tube of the proper length which will fit your lens directly to the camera's threaded lens-opening. In a more or less general article like this, though, space doesn't permit giving precise dimensions for making these adapters, since there are several types of lens-mounts in provide for cameras with their front-plates at microscopically different distances from the film plane.

An interesting aspect of the matter is the fact that an old or obsolete lens made for a larger camera, and properly re-mounted on a 16mm. camera will often give better results on the smaller camera than it ever did on the larger one!

The reason for this is that on the larger cameras, this lens (like the 2-inch Graef we used) is generally covering very nearly the maximum area it can

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THIS business of being a "camera-widow" is all very well for joking purposes—as long as you're not the "widow" in question. After that (as many girls who married movie-makers can testify) it grows too darn personal to be humorous. There's nothing funny in the realization that you're playing second fiddle to Hubby's #19 Cine-Kodak! Especially if your humor gives you any reason for believing you're still reasonably young and not altogether unattractive.

Just the same, it seems to me we wives of movie-makers are a lot better off than we give ourselves credit for being. We can—if we will—take out an active partnership in Hubby's movie-making hobby in a way that's impossible with many other sports and pastimes. If you've got the full-time job of managing house and kiddies, you aren't likely to have enough spare time to make your guffing skill interesting to a husband who shoots in the satisfying evenings. And I know plenty of girls who are too allergic to the sight of a freshly-killed deer or a creel-full of smelly fish to share Hubby's pleasure in hunting or fishing. But movie-making is a horse of a very different color. A smart wife can find plenty of ways to participate and not only share but increase her husband's picture-making enjoyment.

Now mind you, I'm not saying you ought to share the job of running the family camera, or insist on making you a two-camera family. If you find you've got the photographic instinct, swell! But if you haven't, don't let that keep you on the photographic sidelines. I know plenty of movie wives who couldn't save their lives tell an f-stop from an F-dialer who manage just the same to get every bit as much fun out of movie-making as their husbands do.

You see, there's a lot more to making good movies than just running a camera. Pictures have to be photographed, yes; but before that, they've got to be planned, and afterward, they've got to be edited and tided into something that hangs together and is interesting to the screen. There's plenty of room for witty participation in some of these "behind the scenes" jobs.

If you've just been sitting back and placidly accepting the fact your more or less better half made movies, without giving much thought to how you could find yourself a part in his hobby, I suggest that you begin by really studying some of his pictures. Maybe you don't know enough about the fine points of movie-making to tell whether Hubby's pictures are technically good or not. So what? You're pretty well representative of the average audience's mentality, aren't you? And you can tell whether or not his films are interesting and entertaining, can't you?

With that as a start, you can begin to figure out where you can fit yourself in to help make his pictures more interesting and entertaining.

Maybe you'll find that although he can do a grand job of photographing and



You Don't Have To Be A "CAMERA-WIDOW!"

By JEANNETTE REED

editing his pictures, he's rather weak on digging out interesting subjects and entertaining story-ideas with which to display his camerawork. In that case, you may find you can be really helpful to him by serving as a sort of "idea man" for the family production unit. In your spare time (if any!) you can plan out subjects and story ideas suitable for filming. And you can get those ideas everywhere. If you're going to take a trip or vacation, you can plan things ahead of time so Hubby's lens can concentrate not only on scenery, but also on personalized action that will supply a thread of story-interest to run through the scenic shots. In between, you can pick up ideas from magazine and newspaper short stories, cartoons—even from the funny papers—from which you can make shorts and comedies.

On the other hand, his weak point may be not so much ideas and shooting, but continuity. In that case, he'll certainly appreciate it if you can lend a hand as a combination script-writer, co-director and general continuity assistant to see to it that he gets the necessary close-ups and other angles needed to make his pictures flow along smoothly.

Another way you may be able to help is by persuading Hubby to let you take over responsibility for editing the family films. Lots of men who can plan and shoot swell pictures simply haven't the patience to settle down with viewer and splicer long enough to do a good job of editing. There are plenty of us wives, though, who even if we couldn't make head or tail of a camera, could simply eat up this painstaking, detail editing work if our husbands would let us. Their pictures would probably be a good deal the better for it, too; most of the articles on editing that you read in THE AMERICAN CINEMATOGRAPHER and other magazines agree in pointing out that since most filmmakers just hate to cut out their pet shots or to eliminate any photographically acceptable footage, there's a real advantage in having someone with a more detached perspective handle the cutting.

Titling is another point where you can help improve your husband's movies. Most husbands are sufficiently camera-minded to enjoy photographing their own titles—but a lot of them are pretty clumsy about composing the wording on

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AMONG THE MOVIE CLUBS

Inter-Club Cooperation

A lot is said about cooperation between the country's scores of amateur movie clubs, but little, other than the casual exchange of club bulletins, is done about it. Yet the possibilities—especially in wartime—of a closer cooperation between amateur movie groups in all parts of the country are definitely enough to merit concerted action on such a plan.

George Barnwood, one of the organizers of the very active 8-16 Movie Club of Philadelphia, has been campaigning actively in behalf of a National Association of Movie Clubs. Certainly there will be difficulties in carrying out such a project—but when have more difficulties deterred America's enthusiastic movie hobbyists? We believe an association of this nature could work, and would bring all concerned many practical benefits. We'll gladly do our part to help it, if America's amateurs will get behind it too!

Among the immediate benefits Barnwood points out as possibilities in an active National Association of Movie Clubs are:

Formation of a national film-exchange for interchange of prize amateur films and complete programs.

National competitions for both Club and individual-member productions.

District conventions giving America's amateurs a chance to get personally acquainted.

Pressure (once normal peacetime trade is resumed) on manufacturers of 8mm. and 16mm. equipment for standardization according to popular demand of details (like 8mm. framing) not now covered by S.M.P.E. and A.S.A. standards.

Establishment of an amateur newsreel for inter-club activity and distribution.

To this we can add, it times like these, closer coordination of amateur defense-filming activities; pooling of equipment by clubs in conveniently close localities; providing necessary stock-shots of other localities needed in amateur-made defense films; interchange of club-made scenario-films, and other equally entertaining pictures for use in U.S.O. and similar showings.

We believe the idea has merit, especially in wartime. We gladly offer the full cooperation of THE AMERICAN CINEMATOPHILE in organizing such a federation, and getting it actively under way. How about it, you Club officials—?

The Editor.



Installation banquet of the Long Beach (Cal.) Camera Club. Right the Club's 1942 officers: Secret. Van Pelt, Harry Ward, Treasurer Miss F. F. Whiteley, Secretary Fredricka Baskin, and President Edna Hoffman. Photo by John Hall.

New Club in Millville, N. J.

A new club, open to both 8mm. and 16mm. cinefilmmakers, has just been established in Millville, New Jersey. Its name is the Millville Society of Cinecinematographers. Its Secretary is Arthur Radcliffe, 513 North 7th Street, Millville, N. J. Its meetings are held the 3rd Tuesday of each month. All 8mm. or 16mm. amateurs in this part of the State are invited to participate in the Club's activities, and cooperation from older, more established clubs and their officers will be sincerely welcomed.

ARTHUR RADCLIFFE, Secretary.

Gadget Night in Utah

The January meeting of the Utah Amateur Movie Club, Salt Lake City, Utah, was designated as "Gadget Night." All members were urged to bring their pet cine-gadget to the meeting to be shown and explained to their fellow-members. Business of the program included a technical discussion of shutter-speeds, parallax and lenses, under the direction of "Prof." Al Morton, F. K. Pullinger's "I Have A Problem" question-and-answer miscellany, a color cartoon, and as feature of the evening, the Utah premiere of "Gold is Where You Find It"—not the Warner Bros. Screen epic, but a strictly non-theatrical version loaned by the Philadelphia 8-16 Movie Club.

TED GUERTE, Secretary.

War Films For L. A. Cinema

The January meeting of the Los Angeles Camera Club was highlighted by the presentation of three films of unusual timely interest. Two Castle 16mm. soundfilms, "Japs Bomb U. S. A." and "News Parade of 1941" were shown through courtesy of Bell & Howell, and the 3-reel prize-winning Kodachrome film "Beyond Manila," filmed in the Philippines by W. G. Rahn, of Hagman, P. L., was shown through the courtesy of Editor William Stull, A.S.C., of THE AMERICAN CINEMATOPHILE who, with Earl Memory, acted as projectionist for the evening's films. The balance of the program included screening of a number of additional entries in the Club's 1941 Contest. Among those screened were "Not the American Way,"



a novelty by Dr. Roy E. Genterstorn, "Retrovision," by Gilson de Tremmadon; an unusually fine Kodachrome scene by Mrs. Mildred Zimmerman, and a number of other excellent films.

RAYMOND McMILLIN, Secy.-Treas.

St. Paul Screens Rushes

Scheduled feature of the January meeting of the St. Paul Amateur Movie Makers Club was a preview of the "rushes"—unreel-of a 200-ft. 16mm. color film made of the members at the Club's December meeting by Honorary Member William S. Yale, Chief Cinematographer for the Great Northern Railway. This film was made in miniature Hollywood fashion, with every scene rehearsed before shooting, and lighting checked with exposure-meters, Eastman Color Temperature Meter and Harrison Color Meter. Most of the scenes were shot at f 2.5 to f 2.7, using two 3,000-Watt and one 150-Watt Barnburner McAlister Keylights and three 2,000-Watt floodlights. The picture will later be given a formal premiere in its completely edited form.

By way of competition, club-member Harold Smith, who "covered" the same action in 8mm., promised to preview his "rushes," as well.

Speaker of the evening was to be Russell Hamilton, who was to talk on correct exposure and the use of light-meters and timing.

Other film fare was a 500-foot, 16mm., travel-film of Arnold Klum's trip to New Orleans and Katherine Fischer's showing of a 100-foot 16mm. film taken by her father on a trip to Catalina Island, Calif.

A joint meeting with the Minneapolis Cine Club is planned for February.

Long Beach Makes Defense Films

Authentic information on what to do in the event of an air-raid, how to handle incendiary bombs, and how to administer first aid will be the subjects of the first three films to be filmed by members of the Long Beach Camera Club for the Defense Council, it was announced by newly-installed President Robin Hedley.

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... THE SHOWCASE ...

Wanted—Film Spools!

With steel, aluminum, and most other metals vitally needed for the manufacture of war materials, those by-products of photography, the lowly "tin" film-spools, the film-can, and the small, lightweight projector reels on which 16mm and 8mm film comes back from the processing laboratory, have taken on a new importance. Materials for making these items are on a precarious basis, and if film is to be kept flowing to America's cameras, film-spools, reels and cans must be returned to the film-makers for reuse.

To encourage this necessary conservation, the Eastman Kodak Company has set up the following program for the return of these products:

Both cine and still-camera clubs are urged to establish a convenient bin in which their members may deposit roll-film spools, Cine-Kodak cameras and projection reels, film-containers, and the like for shipment to the factory.

Shipments of these collected metal products should be made to the Eastman Kodak Co. in lots weighing from 25 pounds up. Shipments up to 49 pounds should be made by prepaid parcel post, and the club will be repaid the shipping costs. Shipments over 49 pounds in weight should be made by collect freight. The outside of each package should state the contents. All shipments should be addressed to Eastman Kodak Co., Kodak Park, Bldg. 65, Rochester, New York. Name and address of the club should appear clearly on the outside of the package.

The following metal items are urgently desired, and will be compensated for at the accompanying allowance rates. Kodak rollfilm spools \$1.00 per thousand; Kodak Strip-pack cases: \$25 a thousand; magazine-film for No. 135 Kodak maximum film \$20 per thousand, aluminum containers for No. 135 film, \$10 per thousand, 8mm. and 16mm. light metal projection-reels (all types and sizes) 1 each, 8mm. and 16mm. camera-spools: 5c each and up, according to size; cine-camera spool cans 1/2c each and up, according to size.

Shipments need not be made in collected batches of 1000 units, but simply in collections of 25 lbs. or more.

If there is no club in your town through which to make these returns, your dealer will cooperate. No matter how you do it, send those film spools and cans back to work, and keep America's cameras clicking!

Ross Lens Tissue

With the disturbance across the Pacific cutting off the supply of Japanese lens-cleaning tissue, the introduction of an American-made lens-cleaning tissue of high quality is particularly significant. The new product is trade-named

Ross Optical Lens Tissue, and is stated to have been tested and approved by Carl Zeiss and Bausch & Lomb experts. Ross tissues, according to the manufacturer, are new, specially processed, lint-free, strong, and highly absorbent to moisture and fingerprints. The tissues are sold in two sizes—the "Standard" package, 100 sheets of 3½-inch tissues priced at 35c, and the "Economy" package of 1000 4¼x5-inch sheets, priced at \$4. Both packages come in a handy plastic pouch. The manufacturer is A. Roussier, 2117 Eighth-third Street, Brooklyn.



Leica Lenses for Cine Cameras

Cine cameramen—8mm. as well as 16mm.—who also own Leica 50mm. miniature cameras can now employ the longer-focus lenses from their minicams as telephoto lenses for their cine outfits. E. Leitz, Inc., 730 Fifth Ave., New York City, have just announced two adapters which will fit any Leica lens to most subminiature cine cameras.

One of these adapters permits Leica lenses to be used with all cine-cameras fitted with "type C" screw-in lens-mounts. Cameras of this type include the Filmso Autoload Speedster and Automa magazine 16mm. cameras. Films 70 and 701-A, Balox, and Keystone, while, with the addition of another adapter made by Bell & Howell, the Leica "type C" adapter can also be fitted to 8mm. Filmos with their special bayonet-type lens-mounts. In use, the Leica Cine Adapter is screwed into the cine-camera's lens-mount and the Leica lens is, in turn, inserted into the adapter, after which the lens is focused in the usual manner, employing the focusing scales engraved on the lens.

The other type of Leica Cine Adapter is made exclusively for the two mag-

size Cine-Kodaks (8mm. and 16mm.), and is necessarily more elaborate. It has the requisite bayonet-type mounting to enable it to be fitted into the Magazine Cine-Kodak's special lens-mounting, and is also provided with its own focusing movement and calibration. It can only be used with the collapsible-mount 50mm. Leica lenses (Hektor, Elmar, Summar and Summarat). In use, the mount of the 50mm. Leica lens is locked at infinity, and then collapsed. The lens is then fitted into the adapter through the bayonet flanges on the base of the lens-mount. Focusing is accomplished by the focusing movement of the adapter.

Two models of this adapter are made, one for the 50mm. Elmar lens, and the other for the 50mm. Hektor, Summar and Summarat objectives. On special order an additional attachment can be fitted to this model, at the factory, permitting it to be used also with the 50mm. Elmar lens or the 135mm. Hektor lens.

8mm. in Filmosound Library

In response to demands from cameramen, the new 1942 catalogue of sectional films offered by Bell & Howell's Filmosound Library, includes the addition of an 8mm. film-rental service. Initial listing includes 15 subjects in black-and-white and color, including features, cartoons, sport shorts, travel-reels and novelties. Rental charges are 50c per reel for monochrome subjects, \$1.50 per reel for color.

Fotofint Trial Offer

If you're interested in tinting monochrome movie scenes or coloring black-and-white titles for use in Kodachrome pictures, you'll be interested in a special trial offer now being made to introduce Mansfield "Fotofint" to movie-makers and moviegoers. A special trial-use packing of these popular tinting compounds, which need only be mixed with water for use, and containing sufficient Fotofint to color 100 feet of movie film. Six trial-use capsules, one each of Sapphire Blue, Amber Brown, Emerald Green, Royal Purple, Fire Red and Sunlit Yellow, all for 25c, may be obtained by writing Mansfield Photo Research Laboratories, 701 So. LaSalle St., Chicago.

Silver-Lined Blackout Bulbs

Designed for blackout lighting in air raids, the new Wabash Blackout bulb just announced by the Wabash Appliance Corporation, Brooklyn, N. Y., provides downlighting in a soft beam of blue light that is safe for indoor visibility during blackouts. The bulb is lined with a pure silver reflector lining that hides all filament glare and projects the light downward. Light-

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16mm. BUSINESS MOVIES

OVER PINE MOUNTAIN TRAILS

Public informational film on lumbering; 1100 feet Kodachrome, synchronous sound-on-film, direct 16mm recording.

Presented by Parks Lumber & Coal Co.
Produced by The Calvey Company.

Here is a 16mm. business-film which, with the elimination of a few "blips" for the speaker, could be enlarged to 35mm. and given a successful release in the country's theatres. After a somewhat slow start, the film gets under way to tell interestingly how a big lumber company transforms trees into fine, finished lumber-products, ready for delivery to America's home-builders. It is an interesting and unfamiliar story, interestingly told.

From the technical viewpoint, "Over Pine Mountain Trails" is surprisingly fine. We thought the same producer's "Daring Heroes" was about tops in 16mm. commercial production—but this one tops that! It has literally every professional embellishment—several sequences of synchronized dialog, synchronous sound-effects throughout, and an impressive array of "wipes," many of them of the sort usually seen only in Hollywood's 35mm. theatrical films.

The photography is exceptionally fine. Its uniformity of exposure and color-balance have seldom been exceeded—or even equalled—in 16mm. Kodachroming. The credited cinematographer repeatedly evidences a very fine sense of composition, not alone for pictorial effect, but (as in the "lumber buggy" sequence) as a means of subtly enhancing the sponsor's message.

Many of the scenes must inevitably have been made under difficult conditions. For example, the logging sequences, made in the deep forest, certainly offer problems in lighting, but they have been handled excellently. The treatment of the sequences made the various lumber mills offered another problem in lighting, and they have been handled as capably as any Hollywood crew could do. Thus, incidentally, is one of the very few films made under such conditions that we've seen which did not show any signs of off-balance color such as follow the use of high-wattage standard Mazda with or in place of Photo-floods.

In only one instance can we criticize the lighting. This is in the sequence showing the pioneer settler and his wife selling the timber cruiser logging rights to his land. This sequence, apparently made in the producer's studio, seems lit too flatly, and with no attempt to use back- or rim-lighting, and the like, to aid in separating the people from the background, and with little or no modeling on the players. The use of close-ups for at least some of the dialog in this sequence would have helped it, too.

The direct-16mm. sound-recording is excellent, and the way the original

sound, sound-effects, narration, music, etc., have been re-recorded to form a final, perfectly corrected track, is truly professional in its execution. We've repeatedly been able to put the film on the projector and run it completely through without even a thought of touching the sound controls—something impossible with a track which has not been perfectly re-recorded. On at least two occasions we've run "Over Pine Mountain Trails" immediately before or after films with sound-tracks reduced from 35mm. originals (two direct-16mm. recording proved itself so far superior to 35mm.-reduction that it vindicates everything the 16mm. enthusiasts have ever claimed for direct-16 recordings).

THE POWER BEHIND THE NATION

Documentary on coal production; 1600 feet Kodachrome, sound.

Presented by the Norfolk & Western Railway.

Produced by: Waldo E. Austin.

This production pictures one of the most interesting and little-known industrial operations on our "home front," and does it in a very interesting fashion. It keeps film and "story" moving along at a much better—and more interesting—pace than you see in most business films.

His handling of the very difficult sequence deep in the heart of a coalmine is one of the real highlights of the picture. Faced with the proverbial problem of photographing "a black cat in a coalmine," or at least dark-clad men using black tools against a background of ebony-dark coal, he has managed surprisingly well with his lighting and exposure-values.

Some improvement could be made in his exteriors, however. Many of them involve the always critical exposure problem of photographing sooty black coal-cars and coal-handling machinery, and there is a rather definite tendency toward underexposure, as though, perhaps, he had taken his meter-reading on the scene before the black car or tram entered, and not made sufficient compensation for its lesser reflective value. Quite a number of the exteriors, too, appear to have been filmed too close to the noon hour, when there was nothing but a harsh top-light. They would have been greatly improved had they been made earlier or later in the day, when the sun's angle would throw more light slantingly into the machinery, and produce cross-lighted modelling in the landscape long shots.

The final sequence, showing the unloading process by which an entire railroad-car full of coal is picked up, overturned and dumped into a chute through which its cargo slides gently into the hold of a steamer is extremely interesting. It suffers, however, from uneven exposure

and from a lack of the detailed close-ups which would make its meaning more completely clear. Even though the film is completed, it would be well worth while to make some of these interesting close-ups and insert them. We'd also like to see a new print of the film, made by more recent dating methods on the new Kodachrome dupe stock, which was not available when the film was produced.

Another suggestion would be more rhythmic cutting of the sequences in which the narration details the many uses of coal, so that the screen effect is faster-moving and more like a montage, with the picture-images coming on the screen at the same time the narrator's voice mentions them. And, as a railroad enthusiast, this reviewer would personally have liked to see more stress laid on the railroad's methods of transporting the coal from mine to consumer—the why and wherefore of the great articulated locomotives and the multiple-unit electric ones which haul mile-long trains over the mountains with such efficiency. We've an idea the public might also like a little more of the why and wherefore of this, too.

But "The Power Behind the Nation" rises well above its technical limitations. It is so interestingly handled that even a technically-minded viewer is not too conscious of these minor shortcomings, and is, instead, absorbed in the unusual story told.

INSIDE INFORMATION

Sales-instructional film, 400 feet black-and-white, sound.

Presented and Produced by Caterpillar Tractor Co.

A really excellent sales film which very thoroughly tells the story of "Caterpillar" construction and performance. It graphically shows some of the processes of construction, and explains them both in picture, narration, and some excellent animation sequences showing the principles of the Diesel motor, and the operation of various components which can be shown clearly only through this means. The points are ultimately driven home with characteristically excellent shots showing the company's products performing in the field, under difficulties and carrying loads that stagger the layman's imagination.

Technically, the film is first-rate, as might be expected of a firm which has maintained its own motion picture department for nearly twenty-five years. Photographed and recorded in 35mm., camerawork and processing are both excellent, though we'll admit we missed the added touch of color. A number of the scenes showed excellent pictorial effectiveness, as well. The recording (35mm.) was good, but so is so often the case, probably lost quite a bit in the reducing operation; we may be biased on the subject, but it's our opinion that direct-16mm. recording is generally far preferable for business-films which are to be shown in 16mm.

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HERE'S HOW

Professional Tricks

How were the following accomplished?

1. Incorporating the 16-frame Bill Hart picture into the movie scene in "One Foot In Heaven?"

2. Incorporating the color slides into the black-and-white movie scene in "The Birth of the Blues?"

3. Usually twin-audio scenes such as those in "Keep 'Em Flying" are not accomplished by making off certain areas of the scene, but in some shots in this picture there was considerable overlapping of action. How was this done?

4. Interior scenes of automobiles usually look as though the camera is perched up in front of the automobile and yet with the background or foreground moving one wonders how this is accomplished without vibration affecting the camera? How is this done?

W.M. MADDEN.

1. Usually when 16 frame scenes have to be incorporated into a modern film made and shown at 24-frame sound speed, a special print is made from the original 16 frame negative, printing the image of every alternate frame on two frames instead of one, to lengthen the footage and make the action move more normally, though sometimes a little jerkiness is still noticeable. In the case you referred to, however, this was not done. The original negative was used "as is." The Warner Bros' Special-effects staff were simply lucky in this case, for the original negative had apparently been photographed at a speed rather above the normal 16-frame speed—probably 18 or 20 frames or more per second. This was sometimes done by cinematographers in the later silent-picture period to offset the speeding up of action when theatre-managers, to be able to get in more shows (and audiences) per day, used to have their projectionists run their machines well above the correct, normal speed. By the time sound came in, many silent pictures were already being filmed at very nearly 24-frame speed.

2. Putting the color slides into the black-and-white scene in "Birth of the Blues" was accomplished in the printing. The scene itself was photographed in the normal manner, in black-and-white, with the screen area matted off. The slide was photographed in Technicolor, probably on a stiller, and with the camera so positioned and matted that the slide image was the right size to fit in its place on the screen-area of the previously-photographed black-and-white scene.

3. For a normal black-and-white print was made of the black-and-white scene. In this, the screen area was left clear. The color part of the picture was put in by the usual Technicolor printing method, using three color-plates made from the original Technicolor negatives of the "slide." These are like rubber-

stamps, each transferring a dye-image of one primary color to the desired area; when the three transfer-plates are complete, the result is a full color print. Since both parts of the composite shot were matted off, the Technicolor image was printed only on the "screen" area of the black-and-white print, giving the result you saw.

4. Twin-audio scenes in which the "twins" must "cross" each other, or shake hands, and the like, are often done by using a double for one twin (usually the one nearest the camera) and making sure that twin keeps his or her face away from the lens. During recent years, many of these shots have also been made using the projected-background process, projecting the image of the more distant twin onto a large, translucent screen behind the actual actor. Both methods seem to have been used—and used skillfully—in this instance, with scenes made by the various methods carefully intercut.

4. In most modern pictures scenes showing the players apparently riding in a moving car or motorboat are made on the studio stage by the projected-background process. They sit in a "prop" set consisting only of the parts of the car which will actually be seen on the screen. Behind them is a big translucent screen upon which is projected the desired background scene. The foreground camera and the background-projector are electrically interlocked, so that their shutters open and close together. If the various elements of perspective, lighting, etc., are properly coordinated, the resulting composite scene is not only as good as if it had been photographed with the camera perched atop a real car's front bumper, but actually better. Photography and lighting are perfectly controllable, there are no outside scenes to interfere with sound-recording, and the whole thing can be done easier, and at less cost, than would be possible otherwise.

Meter Angles

1. The Weston Cine Meter has a 30° angle of acceptance to match the 1-inch lens on most 16mm. cameras. How would you suggest using the meter to eliminate (if possible) guesswork on wide-angle scenes or long-shots with a telephoto?

2. When the Weston Cine Meter's haffle is open, the angle of acceptance is doubled, making a difference in the meter-reading of about one stop. What useful purpose is served by this increase in light registration? Isn't it confusing, particularly on long-shots where poor light requires the haffle to be open?

3. What is the angle of acceptance of the Norwood meter?

S. R. BARLOW.

1. Our usual method of using any Weston Meter meter for scenes made

with lenses having a narrower or wider angle than the meter's 30° acceptance is simply to come closer to the subject, or back away from it, until the area covered by the meter corresponds reasonably well to that scanned by the camera's lens. On close shots of people—regardless of lens—we never take our reading from camera-position anyway, but from a point near enough to the person so the meter reads only on the person, or preferably only the face, since that is by far the most important factor in the scene. Also, in a cross-light, we angle the meter, in taking such a reading, so that it reads more of the shadow-side than the highlight side. It's given to perfect results so far!

2. The purpose of moving the haffle on Weston Cine and Master meters is so that they can be used in low illumination levels, either indoors or out, where otherwise they couldn't be made to give a reading. Some of the earlier models had a small button to be pressed, which would increase the meter's sensitivity; but this necessitated mental recalculation of the reading, and proved confusing to some users, so the present system was introduced. Without some provision for these low-level readings, users of modern fast film and lenses would find that they could make pictures in light so poor the meter wouldn't give them any reading. Again, the simplest remedy for the trouble you mention is to take your reading so that you know the meter's 60° acceptance-angle coincides roughly with whatever angle your lens may be covering.

3. The acceptance-angle of the Norwood meter is extremely wide—probably, I should say, around 150° or more. But this angle of acceptance is utterly different from that of any reflected-light meter. With the Norwood meter, you take your meter-reading by placing the meter in the same position as the subject (preferably the subject's face) with the hemispherical collector over the cell pointing toward the camera. The hemisphere reproduces the approximate three-dimensional contour of the face, and averages up all the light falling on the subject—on both shadow and highlight sides, and takes into consideration, too the effect of any cross, back or top-lighting actually affecting the subject. In other words, the meter takes into consideration the angle of the light as it affects the camera and exposure, as well as the overall quantity of light itself.

British Defense Films in San Francisco

The British Library of Information has appointed Photo & Sound, Inc., San Francisco, to distribute a series of 10 ten-minute shorts on civilian defense, produced by the British Government.

While these films were primarily produced for British audiences, they are quite suitable for American civilian defense groups, since they treat problems common to both countries. The films are released on 16mm. sound-film.

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Defense Films

(Continued from Page 42)

of successful movie production, and many an outstanding Hollywood picture has been made by men and women who were big enough to forget personal animosities in favor of sincere effort for the sake of the picture, even though director, cinematographer and star might thoroughly despise each other outside of working hours.

Often there may be two or more groups or clubs in a single locality. In peacetime, good, healthy rivalry between such groups is to be expected. But that rivalry must not be allowed to weaken their participation in this phase of the War Effort. If "the other club" is getting under way with a needed Defense Film, don't rush blindly into production with a similar one just to beat the other fellow to the punch. If you can't work together, pooling your skills, and resources to make one really outstanding picture, at least be original enough to choose some other, necessary subject so that the Defense Effort may have two good pictures to needs, rather than a pair of generic carbon copies of a single idea.

The range of Defense Subjects in need of filming is almost endless. There are such obvious Air Raid Precautions films as the Long Beach group's film on incendiary bombs, already mentioned, and others like "What to do in an air raid," "What to do in a black-out," "Gas decontamination," "First aid," and a whole possible series on the detailed duties of Air Raid Precautions workers in your own community. Then there are other important topics which should be covered, such as films instructing the average patriotic man and woman what he or she can do to help in this emergency; films on safeguarding school children; films showing how to aid in the national drive for conservation, not only of tires and metals, but of foods, scrap materials, and even paper and string. An interesting and highly constructive series of films could be made through cooperation between amateur cinema and model airplane clubs, using scale model airplanes to show how to identify our own and enemy aircraft. There are—but the list can be extended almost to infinity. When a nation of 130,000,000 people, like ours, gets actively into modern "total" war, the range of subjects which can advantageously be brought to widespread attention by means of 16mm films is so great that no single producing group—even Hollywood's huge professional film industry—can completely exhaust the possibilities, especially when, as now, time is so much a factor.

Inevitably, the professionals, and away from Hollywood, will carry the lion's share of the Defense Film load. But there is a definite place for the patriotic and capable 16mm amateur. There are some subjects which certainly for local distribution, and in some instances for regional and national showing as well, will lend themselves best to the accustomed silent-pictures technique and the intimately localized treatment only the amateur can give. This writer be-

lieves America's amateurs are not only willing, but able to do their full share in this great undertaking. Let's work together, all out for "all-out" Victory! END.

Movie Clubs

(Continued from Page 34)

"We'll make the pictures and turn them over to the Defense Council to be shown before schools, clubs, and other organizations," said Hadley. "We'll also furnish projections to run our pictures wherever needed."

The Club's 1942 officers were installed at a dinner-dance January 8th, at which retiring President Mildred J. Caldwell was presented with an engraved gift from the membership, in appreciation of her outstanding service which won the Long Beach Cinema Club recognition as the nation's outstanding amateur club. The occasion was repeated as the first time any member had ever seen Mrs. Caldwell rendered absolutely apologetic.

The Club's January 21st meeting featured "Beyond Mama," a prize-winning film from the library of THE AMERICAN CINEMATOPHILES, which was greatly enjoyed because of its timely interest. A very clever picture, "Espana-mandas," a Sam Tait production, was also well received, as were "Siesta Vacation," by Ellen Tinswell, and "California Flowers," by Clare Grubb. Dorothy Dingley and Alma Workley were welcomed as new members.

PRUDENCE BRADLOW, Secretary

Postpone Philly Banquet

At the January meeting of the Philadelphia Cinema Club it was decided that because of the national emergency the Annual Banquet usually held in March would not be undertaken this year. It has been the custom to exhibit at the banquet the three best movies taken by club members. As this will not be possible this year, cash prizes are being offered to the photographer who, according to the club-members' ballots, produced the three outstanding films.

January offered the last opportunity to exhibit films for the Contest, and at that meeting two eligible 16mm Kodachrome films were shown. One was by William W. Chambers, and showed Valley Forge as it was years ago, and as it is today. The other was by Walter Gray, entitled "Bar Harbor," and portrayed the scenic beauty of Mt. Desert Island's shores, headlands, lakes and mountains. An 8mm film on the National Parks was exhibited by new member Carl P. Kerkow.

B. N. LEVENE, President

Contest for L. A. 8mm.

The Annual Banquet and Contest of the Los Angeles 8mm. Club, postponed from December due to distressed black-outs, was finally held in January, but during the daylight hours of a Sunday afternoon, to the distress of fashion-plates Claude Cadeotte, Johnny Walter,

and such lady-members and wives who enjoy wearing formal attire. Special pleasure was given to the occasion by the presence of 1940 President Bill Wade, returned from Kansas City and Denver to make his home once more in Los Angeles. With Past President Wade and Retiring President A. J. Zeman sharing honors, the 1942 officers—John Walter, President, A. B. Callow, Vice-President; Harold McKerns, Treasurer, and Gertrude Miller, Secretary, were formally inducted into office.

The big moment of the banquet was as usual the announcement of the winners of the Club's Annual Contest. This—also as usual—was handled by Benetary Member William Stoll, A.S.C., Editor of THE AMERICAN CINEMATOPHILES, who with a committee of A.S.C. members had handled the judging. He built up almost intolerable suspense by beginning at the fifth prize and making his announcements in reverse order until he reached the premiere winners. The Club's coveted award, The Horton Trophy, a perpetual challenge cup for the year's best vacation film, was won by new-president John Walter, with his Kodachrome film "Shocks." First Prize in the contest went to Foster Sampson's black-and-white film "Ifthi Sheraz." Second prize went to Louis Reed, absent on duty with the Naval Air Service, for his comedy "Our Hero." Third prize was awarded to Vice-President Art Callow for "Spring Tragedy," a Kodachrome comedy. Fourth prize went to Fred Evans for his satire, "Home Movies." Lees Foote was winner of Fifth Prize with an excellent vacation film—almost the equal of those which twice before had won him the Horton Trophy—"Back-Packing the Sierra," and sixth prize was given to W. D. Garlock for "The Magic Closet." A considerable number of additional prizes were decided by lot, which was probably the most equitable arrangement in view of the Judges' report of the unusually uniform excellence of the entries, which in some instances had made awards hinge on less than 1/4 of 1% in a film's score.

The meeting concluded with the screening of the seven major prize-winners, accompanied by musical soiree.

GERTRUDE MILLAR, Secretary.

Exchanges for Philly 8-16

The December meeting of the 8-16 Movie Club of Philadelphia was brightened by the showing of two prize-winning 16mm. Kodachrome films, "Puppet Fantasy," by Paul Snyder, and "One Quiet Evening," by C. J. Hewitt, loaned by the Norfolk Amateur Movie Club in exchange for Norfolk showings of "Retribution" and "Bottleneck" from the 8-16 Club's library.

Plans are being laid for a special contest at some near-future meeting. In this, each member will be Director of Photography for a short screen test. The following month the processed films will be shown, and the winning "take" will bring its maker an elaborate trophy.

LOUIS ROBEL

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In the Dog House

A SCENARIO

By ALEXANDER LEITCH

Post President, Los Angeles Branch Club

MAIN TITLE— IN THE DOG HOUSE

Scene 1: Long-shot in living-room. Two mothers, dressed to go out to a bridge-party. Two children—a boy about 6 and a girl about 7, and their dog, listening as mothers tell the colored maid to watch the children.

TITLE:

"NOW BELLA, DON'T GO TO SLEEP
WATCH THE CHILDREN CARE-
FULLY!"

Scene 2: Medium close-up between heads of mothers into Bella's face as she nods affirmatively, rolling her eyes from one mother to the other.

Scene 3: Medium long-shot, showing mothers walking toward door, still giving instructions to Bella, who is seen, back to camera, in the foreground. They pass out of the door, which Bella closes after them. Then she turns and picks up a magazine, and walks out of picture.

Scene 4: Two-shot of the children, still in living-room, watching her.

Scene 5: Medium-shot Bella sits down in a comfortable chair and starts to read.

Scene 6: Medium two-shot of the children as they squat on floor, stealing furtive looks at Bella.

Scene 7: Closeup Bella reading, begins to nod, catching herself.

Scene 8: Closeup. Children stop playing and turn, watching Bella.

Scene 9: Quick pan to Bella as she falls asleep, dropping magazine to floor.

Scene 10: Long-shot Children get up and run out of room.

Scene 11: Medium long-shot from kitchen, showing children still running as they enter the kitchen. They stand together and look around.

Scene 12: Two-shot. Children open parochet and start pulling out pots and pans.

Scene 13: Closeup. One of them reaches for the cookie box and lifts the lid.

Scene 14: Closeup shot from over heads of the children into cookie box showing it empty.

Scene 15: Closeup of children registering disappointment.

Scene 16: Medium-shot Children leaving kitchen followed by dog.

Scene 17: Medium-shot. Children and dog entering library. Pan with them to bookcase where they start pulling out books.

Scene 18: Closeup. Shot over shoulders of children showing them turning pages, but no pictures.

Scene 19: Medium-shot. All books out of bookcase and scattered over floor

as children get up and leave.

Scene 20: Cut to close-up of maid still staring.

Scene 21: Medium long-shot. Children and dog enter laundry, open washing-machine, and start pulling in various clothes, socks, dirt towels, napkins, etc.

Scene 22: Closeup of hand turning on switch, followed, if possible, by quick pan from switch to washing-machine showing it going full speed, and full of clothes.

Scene 23: Closeup of washing-machine, showing children's hands still putting in clothes.

Scene 24: Medium long-shot. Children

turn away from washing machine and start out of door. Fade out.

Scene 25: Medium long-shot. Fade in. Children and dog enter bedroom.

Scene 26: Medium long-shot. Children at clothes-dresser, reaching for and pulling out clothes.

Scene 27: Medium-shot. Girl holding mother's dress on her. Pan to boy holding tuxedo to him. He speaks.

TITLE:

"LET'S GO PLACES!"

Scene 28: Medium long-shot. Children getting into clothes. Floor all covered with dresses and suits.

Scene 29: Cut to close-up of maid, still sleeping and snoring.

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Scene 30: Medium-shot. Children all dressed up and going out.
 Scene 31: Long-shot. Children coming down outside front stairs.
 Scene 32: Medium-shot as they step on to sidewalk and walk away.
 Scene 33: Cut to washing-machine still going full blast.
 Scene 34: Medium close-up of dog entering bedroom.
 Scene 35: Close shot (pan). Floor of bedroom all covered with clothes.
 Scene 36: Closeup. Dog playing with clothes and tearing them up. Fade out.
 Scene 37: Medium close-up. Fade in. Children return to bedroom and see what has happened.
 Scene 38: Medium-shot of girl with large darning needle threaded with wool, trying to sew the torn dresses. Quick pan to boy doing the same. Fade out.
 Scene 39: Close-up. Fade in. Mad starting to wake up.
 Scene 40: Medium long-shot of front door of living room as it opens and the mothers enter, looking at mad and registering shock.
 Scene 41: Medium-shot. Mad jumps up half asleep and confused.
 Scene 42: Medium-shot. Mothers continue entering living room door, staring at behind them as they see.

TITLE:

"WHERE ARE THE CHILDREN?"

Scene 43: Closeup of mad shot between the two mothers as she shakes her head negatively and registers fear.
 Scene 44: Long-shot of the mothers and mad as they move out of the room hurriedly. As soon as they are out of the picture, pan to the floor showing the books all scattered.
 Scene 45: Closeup of washing-machine still running.

Scene 46: Close-up of mothers looking horrified if possible, pan to mad blinking her eyes.
 Scene 47: Medium-shot. All three turn and rush out of the laundry.
 Scene 48: Long-shot. Children on floor in bedroom, still sewing, and dog lying on some of the dresses.
 Scene 49: Three-shot of mothers and mad as they enter, and register amazement, as one of them says:

TITLE:

"HOLY SUFFERING CATS!"

Scene 50: Close-up. Children on floor look suddenly up at mother.
 Scene 51: Close-up of dog on floor, looking sheepish.
 Scene 52: Medium-shot. Mothers grab up children and maid grabs dog and all rush out of the room.
 Scene 53: Close-up. Mother with boy over lap and using the hairbrush. Pan to other mother doing the same with other child. Fade out.
 Scene 54: Close-up. Fade in. Dog house with 'Fido' printed on it, made with full open front showing only the faces of mad in center, a child on each side, and the dog on top of them all looking pretty sad. They pull down a curtain in front of them on which is lettered:

TITLE:

THE END.

Fade out

R.C.A.F.

(Continued from Page 55)

304 hours of instruction: is more tangible terms, it probably laps very nearly a month off the time necessary to turn out each R.C.A.F. pilot, radioman-gunner or bomber-observer. As it is, we can turn out a trained fighter pilot in 22 weeks, a radioman-gunner in 24 weeks,

and a bomber-observer in 27 weeks. If we didn't have the asset of our training films, you could probably add about three weeks of instruction to each of these training-periods! And in some respects, at least, the students probably wouldn't be as thoroughly prepared for action as they are now.

"These advantages are impressive enough when you consider them in terms of spending up an individual citizen's training period, but they become really significant when you consider them in terms of a mass-production affair such as the whole Commonwealth Training Plan. It's no military secret (certainly, it would give no 'comfort' to Jerry or Me Jap!) that the plan as a whole is turning out some 900 pilots, 800 gunners and 700 observers every month. Without the use of motion pictures in our training, this flow of trained air crews would be materially slowed. We can take it for granted, then, that the motion picture is playing a really valuable part in our job of turning out fighting airmen to gain for our side supremacy of the air."

Army Films

(Continued from Page 55)

aid of training manuals and the advice of the liaison officer from Engineers, the script is written. It has to be approved by various officials in the War Department in Washington, and then shooting can start.

Very little of the actual shooting takes place at Fort Monmouth. It is easier to send a camera crew to the appropriate location than to bring all necessary equipment and personnel to Monmouth. Usually the service school of the branch concerned will be chosen.

The unit that is sent to take the picture is then pretty much on its own once it leaves the Laboratory, and must be sure to get every shot it needs while on location. Retakes are generally impossible. The crew is led by the director, most often a commissioned officer, and includes eight enlisted men. There are two cameramen and their assistant, a still-man, a script-clerk, track driver, power operator, and a utility man. The necessary heavy labor is obtained from the local camp.

Each crew is based on a specially equipped truck. TFPL has ten of these standard army trucks fitted out made with everything needed on a shooting trip. While crews are built so that every piece of equipment is packed safely in its place, all pieces can be removed without difficulty and re-packed in any standard truck of that type. This minimizes the loss of time due to breakdowns. When the truck leaves camp for a shooting trip, it is ready to take pictures anywhere, under any conditions, under its own power. The inventory of material included takes up two full pages and includes everything from cameras to carbon paper and cleaning tissues and even cartons to mail back the exposed film.

Most of these films are shot without

The 1942 Edition RIGHT OFF THE PRESS American Cinematographer Hand Book and Reference Guide

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natural sound. A commentary is written for them later and dubbed in at Fort Monmouth. Occasionally, sound is necessary, and the unit is ready to do the recording on location. They have three sound tracks with all necessary equipment, and technicians to handle it. These sound tracks, while smaller than the others, are just as completely self-contained.

The equipment used by TFPL is as standard as it is possible to get. Using familiar types of equipment enables the professionals who form the larger part of the unit to become assimilated as quickly as possible. Mitchell Standard cameras are used throughout. Their light weight, sturdiness and adaptability make them a favorite. Flux X and Dupont No. 2 are the most commonly used films, although other types may be employed for special jobs. The usual assortment of filters and lenses are part of standard equipment. All work is done on 35mm film, with the final prints being made in both 35mm. and 16mm. The developing is done either at the Signal Corps laboratory at Fort Monmouth, Washington, D. C., or at New York's DeLuxe Laboratories.

Little footage is taken by the Unit on maneuvers. It has been found that this is not suitable from an educational viewpoint. For best results a film must be planned in advance and taken under controlled conditions. Scenes must often be taken several times in order to properly emphasize the desired points. This is obviously impossible during maneuvers. While motion pictures may be taken of warner action for tactical study later, they are not taken by the TFPL, but by regular units of the Signal Corps, assigned for the purpose.

The animation section of the unit absorbs a large percentage of its personnel. Animation is extremely useful in explaining the inner workings of something like a machine-gun or a carburetor. While this is, of course, more expensive than straight photography, and usually takes more time, its value is sufficient to make it a worthwhile expenditure. The TFPL has been able, however, to cut down on the work involved. In the first place, they have found that the subjects they must animate do not need the same number of drawings, nor as closely spaced, as is necessary for a commercially-released cartoon. The mechanics of machinery is apparently simpler than that of human beings or of animals. Another technique that has been developed at Fort Monmouth is the fuller use of articulation. Instead of illustrating the motion of a piston and the valve heads in a cylinder, for example, with a set of a thousand or more drawings, a two-dimensional model is constructed out of celluloid. This can be moved through its complete cycle in a fraction of the time needed to draw the complete set.

Most of the men who are working in the unit above General tank have been drawn from professional circles, Hollywood and elsewhere. A number of well-

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known cameramen have turned from the newsreels to the Army. Bill Widmayer of "The March of Time," Al Gold of "Fox Movietone," A. L. Gaskell, from the Boston office of "News of the Day," Lee Deane, of "Universal Newsreel," and Donald Cavelli, formerly Gregg Toland's assistant, are some of the photographers down at Monmouth. Whether they volunteered or enlisted the Army through Selective Service, they are working where they can use their experience to the best advantage of their country. Such men as Maj. Robert Piccinni, from Samuel Goldwyn's Studio, writer of "Meet John Doe," Maj. Paul Sloane, producer-director from Paramount, Capt. Gordon Eg-

by, a veteran of many Hollywood studios, Capt. Richard Catell and Capt. David Silverstein of Columbia, Capt. Harrison Jacobs of the "Hopalong Cassidy" series, and Lt. Julian Blaustein, who formerly headed Paramount's story department, are typical of the executive personnel now working on these Army films. Writers, editors, animators, and the rest, have come from Hollywood to join TFPL.

There at Fort Monmouth is a group of which the motion picture industry may well be proud. They are doing the best job they know, in a familiar me-

dream. They've pitched in to learn a new language and a new technique to help make our Army the invincible force as necessary today. Many of them have left secure and comfortable positions, have volunteered to travel 3000 miles from their families and homes, to offer their services and their skill acquired through years of training. They are doing what they know best—making films for Victory! END.

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Color in the Air

(Continued from Page 40)

tical power-dives, we found—as Marshall and I had learned a number of years ago in making "Hell Divers," the first film about the U. S. Navy's dive bombers—that if the subject plane and camera-ship simply dive together, there is no effect of diving produced on the screen, because the ship being photographed still appears to be flying horizontally in reference to the camera's frame. To get over the dramatic effect desired, the camera must be tilted over sideways so that the plane being photographed appears on the screen to be diving downward, toward the bottom of the frame.

To facilitate this with the big Technicolor camera, a special device was developed. We called it the "rounds-roundie," which was probably as descriptive a name as anything. It consisted of a special, barrel-like mounting interposed between the camera and the tilthood. By means of gears, this "barrel" could be revolved approximately along the horizontal axis of the lens. In this way, as the camera-ship entered its dive, the camera could be rotated about 10 degrees in the opposite direction, so that even though camera-ship and subject-plane were diving vertically, the camera's frame remained level, and the plane being photographed appeared quite properly to be diving toward the bottom of the frame. If

necessary, the camera could even be rotated completely, and turned upside down or spun round and round. Working it properly, with a big, toghy camera in the already toghy mount, while your own plane was going 1600 its dive, took some rather difficult physical coordination, it must be admitted. This device, too, would have been much easier to operate had it been placed on a geared tilthood rather than a fraction-type head.

The bulk of the Technicolor camera somewhat restricts your choice of mounts when making fixed-mount shots. The results, as shown in the illustrations, must be of sturdy construction, and solidly anchored to the plane's framework. Due to the factor of wind-resistance, it seems best to have these fixed-mount installations pretty close to the center line of the plane—under the landing-gear, or directly above the center-section of an open biplane. Fortunately, due to the fine skill Byron Haskin, A.S.C., and his special-effects staff have acquired in making Technicolor process-shots, we did not have to contend with the problem of mounting these big cameras out on the wings or back along the fuselage, as was sometimes necessary in black-and-white a few years ago, before projected-background process technique was so well developed. It is probably just as well! I am sure, anyway, that we aerial cameramen—to say nothing of the pilots who fly us—look forward more eagerly than most to the long-promised coming of the monopack type, single-film Technicolor which can be shot in standard black-and-white camera!

Making "Captains of the Clouds" was in many ways one of the most interesting of all the many location trips I have ever taken. For many weeks we were the guests of our very hospitable Northern neighbors, the Canadians, and particularly of the Royal Canadian Air Force. Some of the time we lived in barracks at various R.C.A.F. training centres, and took part in the regular Air Force life. The way everyone from Air Marshal Bishop, the famous World War I ace, down to the humblest air-craftsman took time out from their regular wartime duties to help us is something we shall not soon forget. I am sure every member of the troupe agrees in hoping we've given them a picture of which they may be proud.

Making the "bush flying" sequence which comprises roughly the first half of the picture gave us not only some spectacular flying, but some decidedly ticklish moments. The Canadian "bush flyers" are a peculiarly hardy bunch of men—probably true descendants of our own "bushmen" of twenty years ago—who provide the only means of transportation for freight and passengers throughout much of the bush country of the north, where roads of many kinds, trapping, prospecting, and the like are being developed. Flying from lake to lake in float-planes (or in

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Getting these scenes, with a group of picture-trained Hollywood pilots flying seaplanes (some of them for the first time) while we photographed them from a landplane, was quite a thrill in itself. We had plenty of spectacular "chase" action which called for hedge-hopping over the forest's treetops, and skimming close above the surface of the lakes with which Canada is dotted. That was all right for stunt pilots flying solo in float-equipped seaplanes, which could land safely on the lake in case of trouble—but following them in a landplane was another story. There were plenty of times, you may be sure, when each of us were very happy, indeed, that the studio had been kind enough to give us a camera-ship equipped with three husky motors, rather than a single one!

We can hardly pay too much credit, too, to the pilots who, under the direction of Frank Clarke, flew all of this part of the picture. They indulged in a lot of really dangerous flying, doing it, too, in unfamiliar float-seaplanes, yet they came through it as though they'd been flying seaplanes for years.

Later, as we got into that part of the story where the leading characters joined the R.C.A.F., we worked with regular Air Force training and operational squadrons. And we can verify what the Germans, the Italians and now the Japs have learned to their sorrow—that these men of the R.A.F. and the R.C.A.F. are fiercer second to none! Many of the boys we photographed as cadets are now officers in active service overseas, and have already distinguished themselves in action.

One of the more spectacular shots of this part of the picture was of a mass take-off of the training-planes of one of Canada's many primary training schools. Several score of the bright yellow "Fleet" trainers taxied down the runway in formation and took off. Our camera-ship, in the air beforehand, dropped down into the middle of them, and filmed the take-off from the above level, making one of the most spectacular scenes you could wish.

Later in the picture, we spent some

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time with an operational squadron on the Atlantic seaboard, flying Lockheed "Hudsons." One day I recall we were out "somewhere over the Atlantic" flying a Hudson bomber, and photographing a formation of similar ships representing, in the story, a mass flight of bombers being ferried to England. Undoubtedly as was a vast expanse of dull-gray ocean, I turned to one of the officers with us, and asked where we were. He replied very casually, "Oh, we're about 150 miles south of Halifax, and 200 miles out to sea!"

On another such flight, we were getting along famously, when suddenly—right in the middle of a shot—an unannounced "scare" broke formation and started off in a hurry to various points of the compass. Our pilot followed suit. When I asked him what in the world was happening, he replied, "We just got a radio that such-and-such a steamer's been torpedoed a few miles over—and we've been ordered out to 'get' the sub that did it!" That day, we were out on business—for Canada, not for Hollywood!—from 11 in the morning until nearly 5 in the evening.

In another sequence, we used a "Hurricane" pursuit plane painted up with appropriate swastikas to represent a German Messerschmitt fighter which was supposed to attack the ferry-flight of bombers. We really sympathized with the poor chap who had to fly that plane. He had a nervous time of it. Every time we went out, they had to phone and broadcast to all the stations for miles around that "There's a 'Hurricane' plane in the air. It's an RCAF ship being used for a Hollywood motion picture. For heaven's sake, don't shoot at it!" With scores of anti-aircraft batteries scattered below us, loaded with five" shell and with tense, dicky-fingered gunners, that warning was really necessary! In wartime, you know, when you see an enemy plane, it's considered good form to shoot first, and ask questions later. That incident brought it home to us very forcefully that we were, after all, not just photographing a play war, but were filming a story built around the real thing, and shooting it in a country already seriously engaged in real war! END.

Vic Milner

(Continued from Page 21)

cinematograph was founded in 1919, he, as a recognized First Cinematographer, was one of the fifteen Charter Members.

During his clerk, he did what few, if any other members of the profession has had the courage to do. Arrived at a high place in his profession, he admitted he still had more to learn—and voluntarily dropped back to an assistant's menial job for the sole purpose of gaining further experience by working with the man who was then acknowledged to be the industry's greatest master of lighting—John F. Seitz, A.S.C.

It was after this "post-graduate course

in cinematography" that he felt himself qualified to make his during proposal to Director Nibbs. No wonder he felt confident of making good! And no wonder, either, that from that day to this, he has stood always among the foremost members of the camera profession! Many of Hollywood's greatest and most perfectly photographed pictures have come from his cameras. During the years when Ernst Lubitsch was the kingpin of the Paramount roster of directors, and making history with the delightful *Cheerful-McDonald* musicals, Vic Milner photographed them. Today, when Cecil B. De Mille makes a picture like *Bees in the Wild World*, he insists on having Milner at the camera. One of the Milner-De Mille efforts—"Clemence"—was the coveted Academy Award for the year's best photography; virtually all the other have been Award nominees and near-winners in both the black-and-white and color groups.

Milner's approach to his work is unique. He throws himself into each picture with the same nervous intensity you see in Toscanini's conducting of a great symphony concert. When he is on a picture, he has time for very little but his work; he eats, and sleeps and dreams and lives with his on-the-set problems and aspirations. For to him, an assignment to photograph a picture is vastly more than a mere job—it is a modern trust.

That trust, as Milner sees it, is two-sided. "On the one hand," he points out, "the producer has entrusted me with the responsibility of getting his investment of perhaps two or three million dollars onto the screen in valuable celluloid. On the other hand, the public who, collectively will invest as much or more money in buying than was into the theatres to see that picture—have, by implication, at least, entrusted to me the responsibility of bringing to them in the most perfect form possible the entertainment which producers, writers, director and players have created for them on the set. Either way you look at it, if I fail in my work of putting the picture on film in the best way possible, I am failing those trusts."

"The same thing applies to the way I photograph any given star. The producer has spent a lot of money building up a star like, say, Claudette Colbert. The public, whose support has made her a success, has an equally big investment in the way she looks on the screen. I've got to use my knowledge of photography, lenses and lighting to protect both of those investments, and see to it that she appears at his best in every scene."

With an attitude like this, it is no wonder that Milner is in his own severest critic. Repeatedly I've seen him come from rush-jerk screenings looking the picture of dejection. To his friends, he'd disgustedly assert that he'd lost his grip—that somehow he couldn't balance his lighting at all—that his exposure and compositions were all wrong—that his assistant could have done a

better job than he did. Yet at the same time, everyone in the studio—executives, players and fellow-cinematographers—would be singing his praises for the superb skill he had shown in difficult work. So often, if ever, have I seen him completely satisfied with even his best work, or willing to admit he couldn't have done it a bit better.

He seems equally at home in any key of lighting or visual mood. He has achieved brilliant success with somber, low-key dramas like the original "Way of All Flesh" or "The Man I Killed," yet at the other end of the scale, his skill is sparkling, high-key lightings for smart comedy-dramas like the Lubitch musicals or the more recent "Lady Eve" and "My Life With Caroline" is acknowledged as perhaps the industry's foremost.

If you press him, he'll admit that, in black-and-white, at least, his preference is for the sparkling high-key work in which he so greatly excels. But his real preference is for color. His first three-color Technicolor effort, "North West Mounted Police," was a stout contender for last year's Academy color Award; his recently-finished "Reap the Wild Wind" is said to be one of this year's most sensational Technicolor releases. He is anxious for further Technicolor assignments, for to him, color is the coming medium.

"Each time I've finished a color picture," he points out, "and gone into a black-and-white production, I had a sense of familiarity as I viewed the rushes. No matter how hard I tried, my work in black-and-white left me with an instinctive feeling something was missing. There was—both the added reality of color, and the fuller artistic scope color affords the cinematographer."

"Isn't it logical to believe that the public feels the same way, too, if perhaps only subconsciously—especially since any of them can put a roll of Kodachrome into his home-movie camera and make his own pictures in color? Certainly, after seeing a star like Madeleine Carroll or Paulette Goddard in color, there's a let-down in seeing her in black-and-white—a feeling some vibrant dimension is missing."

"I'm sure it's only a matter of logical progression until all our major pictures will have to be made in color. Maybe not Technicolor, but in some three-color process equally good or better."

"From the cinematographer's viewpoint, color is certainly the next step. Fifteen or fifteen years ago, just before sound came in, we were fast approaching the peak of perfection in black-and-white camerawork. Our better pictures reached incredible heights in their perfection of mood, soundness and total values. Then came sound, and the advent of panchromatic film, which gave us new problems to overcome, new conditions to master."

"Since that time, we've done it. Today, we're fast approaching, if we haven't actually reached, a virtual saturation-point in our artistic and tech-

nical progress in black-and-white camerawork. We've got to keep on progressing in some direction, for we certainly can't stand still."

"Color, I think, is the avenue for that next progression. Most of the men who have had experience photographing modern color productions will, I am sure, agree with me. It gives us a new medium—a new means of expressing ourselves both dramatically and pictorially—a new and virtual realm."

"I think the men who have so far made color productions will agree, too, that there has been a good deal too much of a mystique made of color-photography. My own experience—and that of most of the others—indicates that color is, if anything, even easier than black-and-white. But it calls for painstaking technique, and a genuine understanding of photographic fundamentals—lighting, exposure and composition. Above all, it calls for inherent good taste."

"Most of this talk about a special 'color sense' is just publicity. Of course there are some few people who don't seem to show any sense at all about color-combinations, like your neighbor who insists on wearing a purple tie with a green shirt; but I think good taste covers it much better than any term like 'color sense.' And as we make more and more color films, I'm confident we'll see it proven that any capable cinematographer who has ordinary good taste is potentially an equally good color cinematographer. After all, good photography is essentially a matter of knowing the fundamentals—lighting, composition and exposure. And those fundamentals apply with equal force to all kinds of photographic picture-making, whether you're making your picture in movies or stills, on orthochromatic or panchromatic film—or in black-and-white or in color."

"Details may change with the times and the media available; fundamentals never will. Run any outstanding picture of fifteen or twenty years ago today, and if your eye can penetrate beneath the surface differences caused by improvements in materials and equipment, you must honestly admit that scenes which were fundamentally good photography then, are still good photography today, though today we could do it better because we've better materials with which to work."

"Tomorrow, we'll have yet better materials—one of which, I'm sure, will be increased use of color. But none the less, the basic factors of light-balancing, exposure and composition, which make a picture good or bad today, will still be the governing factor twenty years from now. And the men who know these fundamentals needn't fear any of the superficial changes that are bound to come."

That, we'll say, looks like a pretty good summary of the reasons why Victor Milner, who learned his photographic fundamentals the hard way, is one of the leaders of his profession. END



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(Continued from Page 20)

and water spots, and by finger-marks. Luckily there are several methods by which film can be protected. It's quite a job, though, because to do a really good job, the protective treatment should safeguard it against such widely differing dangers as damage from climate, wear, scratches, oil, dirt, water and finger-marks. Adequate resistance to the heat of projection and lack of satisfactory atmospheric moisture requires assurance of what the chemicals call the "pliability reserve" resistance to such physical damage as scratches, excess atmospheric dampness, and oil, water

and fingerprint stains requires a toughening or hardening of the emulsion's structure. Yet this last must be obtained without sacrifice of pliability—and both changes must be permanent, and unaffected by either continued use or the repeated cleaning which all good film should be given.

One very recent method is the one introduced a year or so ago by the Eastman engineers, which consists of applying a microscopically thin coating of a special lacquer over the film's surface. This would appear to seal the emulsion in what the diplomats like to call the "status quo," and should tend to keep the moisture in the emulsion from getting out, or that which is outside from getting in. It also seems to act like a coat of armor-plating: the lacquer-coating is thick enough to take the oil-marks and fingerprints and all but the deepest scratches without letting them penetrate to the emulsion. Then, when the film begins to show wear, I understand the lacquer can be removed, and a new coating applied, so that the net result is virtually a new print. However, there's one practical question I haven't yet seen answered in any discussion of this method, whether or not it also seals the edges of the emulsion-layer. This is important, for moisture can work in and out edge-wise, as well as through the surface of the emulsion; there are some operations in Kodachrome processing, I believe, in which certain layers of emulsion are developed or colored just that way—by penetration through the edges.

Another very popular, and technically unique method of protecting film is by the well-known Vapostrate process. In this, various chemicals, each of which serves a particular function in protecting the film, are introduced in proper sequence, while the film is kept in a vacuum.

In this process, the first step is to introduce a chemical which displaces the easily-lost water content of the gelatin particles, and substitutes an inner lubrication which gives the necessary

inner resiliency. This protects the emulsion against heat and brittleness.

The next operation introduces chemicals which toughen the surface of the gelatin particles to seal in this inner lubrication, and to seal out unwanted water, oil, dirt and finger-marks. It also tends to provide protection against scratches and abrasions, against water damage in accidents, floods and fires, and against mildew and other bacteriological deterioration.

The next step after this is the introduction of further chemicals which lubricate the outer surfaces of the gelatin particles, after that surface has been sealed to keep the inner lubrication where it is needed, and touchered to resist wear and abrasion. This outer lubrication is quite distinct from the inner lubrication. It eases the passage of the film through the projector, and lessens the mechanical strain on the performers.

All of this treatment would be of relatively little use if there were not some method of keeping the various protective chemicals where they belong. In this direction, the Vapostrate treatment is, I think, particularly ingenious. The various protective chemicals are introduced in a vacuum. They actually enter the treating-chamber as liquids, but with the release of pressure, they turn to gas or vapor, and can penetrate the emulsion freely. The same basic principle is used to keep them where they belong: Air pressure is introduced after the treating is complete—the normal 14 lbs. per square inch which surrounds all of us normally. And this normal air-pressure serves as a policeman to keep the preservative chemicals in the emulsion, and to keep cleaning-fluid, water, and normal atmospheric moisture from seeping in and destroying their effectiveness.

In all of this, however, we've considered only one side of the film—the emulsion. Ordinarily, we think of the emulsion as being the tenderest side of the film. But a number of engineers like Hayley Harrison, who stated the question rather thoughtfully when he designed the well-known Craig 16mm. viewer, point out that the celluloid base of the film is much more subject to abrasion than most of us give it credit for. You can check up on this easily enough by inspecting both sides of a strip of abused film through a magnifying glass. You'll be surprised how many of the scratches appear to be on the celluloid side of the film!

Probably the best protection from film-base scratches is to have the film lacquered on that side. This should protect the base from most scratches, and the coating can be removed and replaced whenever the film begins to show wear. With Vapostrate or a similar coating on the emulsion-side, and a good lacquer-coating on the film-base side, your film should be amply protected against most normal wear and tear.

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tainly advise you to look very seriously into the possibilities of giving them protective treatment. No matter what method, or combination of methods you decide to use, the cost is remarkably small—especially when compared to the advantage of having film that you can run and re-run without fear that your normal and necessary handling will wear them out before their time! END

Funny—Or Corny?

(Continued from Page 71)

were in a swell mood, earned right along with the feeling of the story, when along came a couple of meat-to-be comic cops, to solve the case. The first thing they did when arriving at the scene of the crime was to trip over the threshold and fall flat on their faces. Haug—went that beautifully built-up mood of mystery which had been so painstakingly established, sacrificed, shot to the winds by a misguided attempt to get a laugh. So-called "comedy relief?" Harn it, those cops didn't have to fall on their faces just to prove they were supposed to be comedy characters. Their looks, or if not that, something they could do in the normal course of action would catch their stupidity in a moment. And we don't mean that one of them would have to suddenly pull out a pair of scissors and some paper and start cutting out paper dolls, either!

Among the old stand-bys that are generally good for a laugh is the "double-take," along with its blood-lesher, the "late-take." In fact, those have been used so much in so many varied conditions that it's almost a foregone conclusion that a chuckle is imminent if a character indulges in one or the other.

In a double-take, a character hears, or sees something incongruous during the normal course of action. The significance of what he's seen or heard doesn't dawn on him at the moment, and he pays no attention to it, but a split second later the realization hits his brain, and he reacts to it with a take.

The late-take is carried to more of an extreme than the double-take. In this, a character again sees or hears something out of the ordinary, of particular significance. He pays no attention to it at the time, but continues on with whatever he was doing. Several seconds might elapse before what it dawns on him.

Little things like "Character touches" can also liven up your scenes. These are not gags, as they are usually seen

associations, natural bit of business indulged in by a certain character during the normal course of a scene, generally as a result of his particular type of personality. Maybe it's only as simple a thing as the character scratching his nose, or some other simple action characteristic of his personality and not interfering with the main action of the scene. Wally Beery, for example, has stolen many a scene by simply yawning. A "touch" is just that—no drawn-out gag, no piece of business that requires the least build-up.

Double-takes, late-takes and touches are the seasoning that can spice up a picture, but, like all seasoning, they should be used with a fair amount of discretion. It was a great temptation to have one of our characters in "Gintely Gelsch," a dumb detective, indulge in late double-takes all through the picture just because he was that type of character. However, with a great show of restraint, we confined our use of them to where they would do the most good in advancing his personality.

In figuring out continuity business, a good thing to remember is that it isn't always what a character does that is funny, but how he does it. For example, a situation involving mixing cake-batter might be mildly funny, but get the old man out there in the kitchen mixing the same batter, and you'd have something to provoke real mirth. Assuming, of course, that our papa in the average pop—he doesn't know beans about mixing cake-batter.

This is a comedy situation, too, that could be handled in a dozen different ways, employing the broad slapstick gags and the subtler character touches. And here slapstick gags would be twice as funny because they would originate logically from the efforts of a definite personality to adjust himself to an unfamiliar situation, and wouldn't have to stand alone on their own merits for humor.

But then again you can't always tell. We had a slapstick gag in our picture that appeared to be entirely as line and evolving logically from the action taking place. A character, slightly tipsy, opened a bottle of potent utter-gance, which spouted out unexpectedly from the mouth of the bottle in a stream that shot halfway across the room, catching a gal of his, also slightly tipsy, right in the face. We figured that the broadness of the gag would be excused because of the somewhat goofy situation of a couple of drunk canoes indulging in a wild spree.

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However, after a couple of trial runnings, it looked cutesy—had a kind of "Look folks, here's a guy grilling a stream of toilet tissue in the face. Isn't it funny?" feeling to it. To get around this stigma of cuteny, we decided to use a complete action of the guy opening the bottle, with the juice squirting out, only instead of showing the stuff hitting the other guy, we held on the shot showing the fellow with the bottle just waiting with a kind of dumb apocchalance until the stream subsided, as if it were a perfectly natural occurrence. He then poured a drink and handed it to his pal, who, as we cut to him, was just in the act of wiping himself off. As a result, there was a good laugh on the scene of the stuff squirting out with the guy just watching it, and another laugh when we cut to his pal.

The proper build-up to a laugh is important. A funny scene can be doubly humorous, depending on the buildup of events which climax in that particular scene. Again an example is pulled from "Grizzly Gulch." There was a long-shot of a western street, at dusk. Far down at the other end of the street, which was more or less deserted, came a man on foot, walking very slowly, leading a horse.

The scene by itself wasn't funny. It might well have had tremendously dramatic implications. But it got a laugh. It was supposed to, luckily. A couple of sequences previous, we had shown the same character walking wearily down a hot country road, heading toward town. Having had enough of walking, he rented a horse from a farmer for the purpose of making his trip into town a little easier. We left him galloping off down the road, and the next we saw of him was this picture of the poor daps on foot again, leading his horse into town.

Just because a character is supposed to be a comic is no reason that he should necessarily look like one. It's far cleverer if his personality can be brought out in the way he does things and reacts to situations. More looks alone can be very deceiving. We went a trifle off the beam in one case, in contrasting our villain. He was a cheap, tin-horn crook, said-shack and handit with no comic aspects at all, a straight character to provide contrast to the sly sheriff and detective he worked against. We gave him a derby hat, tuxo coat, worn-out white gloves and glasses to put over his saddy personality.

Well, the first shot of the guy crooked a laugh on account of the costume, and it shouldn't have. The audience was started off with the wrong conception of the guy, and were all set from then on to expect something very funny out of him. Which was entirely against our intention, and it took a little while before the audience finally accepted the fellow for what he was supposed to be. And the fact that he was killed off in the last reel cranked the seriousness of his character for us.

However, it isn't any more necessary to kill off a character to prove he's not a comic than it is to have a comic indulge in any homeplay all through the picture just to prove that he's what he is.

As long as the movie-maker knows pretty well what result he wants to achieve on the screen, before he starts rolling his camera, he is reasonably assured of a satisfactory result. Decide on a thing, then stick to it.

But to bear out the contention that there are no rules for making pictures is the classic story of an early silent film producer who shot his wad on a super-dramatic costume epic. After the thing was all cut together, it was run off in the projection-room. After the last reel rolled off, there was no sound from anyone—producer, writer or director. Just a stunned silence. The super-dramatic epic was an unbelievable collection of oops. The acting was awful—everything in the whole darn picture was hopelessly corny from a dramatic standpoint.

Well, the masterminds went into a desperate huddle. Obviously, the picture was beyond repair. No amount of retakes could patch it up. In fact, there wasn't any money left. Suddenly inspiration hit. A writer who specialized in gag titles was frantically poked in, and the whole picture was turned over to him. He went to work and cut in gag titles at different spots throughout the picture. The result was that the intended dramatic epic metamorphosed into a hilarious burlesque which was a smash hit!

If you don't believe this, try shooting a serious drama, then cut in some choice gag titles at the proper places. However, it is hoped that the average cinephile will know before he starts whether or not his picture is to be a funny one, and won't have to resort to gag titles.

to carry it into the realm of the bar-league.

Then, even when it's finally all over, the cine-ham can't be quite sure if his result is funny or noisy. He's been too close to it for a first-hand, detached appraisal. And he usually finds that even his best friends won't tell him **END**.

Telephotos

[Continued from Page 72]

possibly cover. Unless the lens is an unusually good one, you're likely (especially if it is a fast lens used at or near full aperture) to notice a slight falloff in definition at the edges, and particularly the corners of the picture. But if you use the same lens on a much smaller-sized film—as in this case, 16mm, instead of 35mm—you can easily see that you're only using the center of the lens' actual image. This is the best part—the "crown of the crop," so to speak. If you've done a good job of mounting, and of course if your focus and exposure are correct, this image will be sharp to the very edges—even if the lens is used wide open—and it will stand considerable blowing up, even the tremendous enlargement of projecting on a theatre-size screen. Only the grain-size of the film will limit you, and with Kodachrome, even this is almost eliminated.

Perhaps the sketches will give you an idea of the principle of this, and also of why a longer-focus lens used on a picture-size smaller than the lens is inferior to cover will give a telephoto effect. Suppose you take a picture with an average-sized still-camera, and make a lantern-slide positive from it. In projecting this, you see an image of a bird sitting on a telephone-wire in the background. Now make the slide down until the image of the bird is all that remains of the original picture—instead of a 3½x4-inch slide, you will have an image about the size of a 16mm frame. Back the slide-projector away from the screen until this part of the image completely fills the screen, and you'll have obtained what is virtually a full-screen, telephoto shot of the bird. At the same time, you'll be using only the very center of the whole image—the very best part for definition and optical correctness. Using the longer-focus lens on the smaller frame of 16mm, is giving you precisely the same effect, with less trouble.

Getting back to practical things again, don't forget that mounting a lens is only half of the job. To use it accurately, you must have an accurate finder to match the lens' field of view.

The simplest method is to make a series of masks of metal or heavy, colored celluloid, which can be fitted over or into your regular finder, and which will indicate the field your lens covers. To do this, set your camera up on a tripod, subdivide, and put a strip of ground glass into the aperture. Train the camera on a view, or maybe the side of a building some distance away—anything which has pretty clearly-discernible features. Check the limits

—top, bottom and both sides—of this image with a magnifying glass, and—without moving the camera—mark these same points on your finder-matte. Then cut out the matte.

If you're likely to do much close work with your telephoto, it is a good idea to repeat this operation for some closer distance, like 6 feet, so your finder-mat will not only show the distant field for the lens, but will also give you an indication of how much to allow for parallax at closer distances **END**

Camera Widow

[Continued from Page 73]

the title cards. Often their wives—especially if they've any knack for literary expression—can do a much better job of title-writing. And if you're any thing toward sketching, lettering and the like, Hubby is likely to thank you with extra enthusiasm if you'll turn it to helping him letter his title-cards. Don't forget, either, that often an amusing little cartoon on a title-card can help give home movies an extra sparkle.

One of the smoothest-working husband-and-wife moviemaking teams I know is that composed of Bob and Beane Torrey, of the Los Angeles Sun. Club. As a First Sergeant of Marines aboard a Navy cruiser, Bob and his Sun camera travelled all over the world—to China and the Philippines, to Panama, South America, and Hawaii. A crack-jack photographer, he brought home reel after reel of really outstanding travel scenes. Then Beane, after previewing the rushes, would pick out a continuity which—with the inclusion of a few added scenes—would provide a simple little story framework upon which the travel scenes could be hung. Bob would do the necessary shooting, and editing, and the result was a series of prize-winning pictures.

On another occasion, Beane planned a simple little scenario film which could be filmed with a cast of friends. As Bob could get only week-end leave ashore, his wife made all the necessary preliminary arrangements. When he came ashore one Saturday, everything was ready for filming—camera, film, lights, cast, props, make-up, and every-

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